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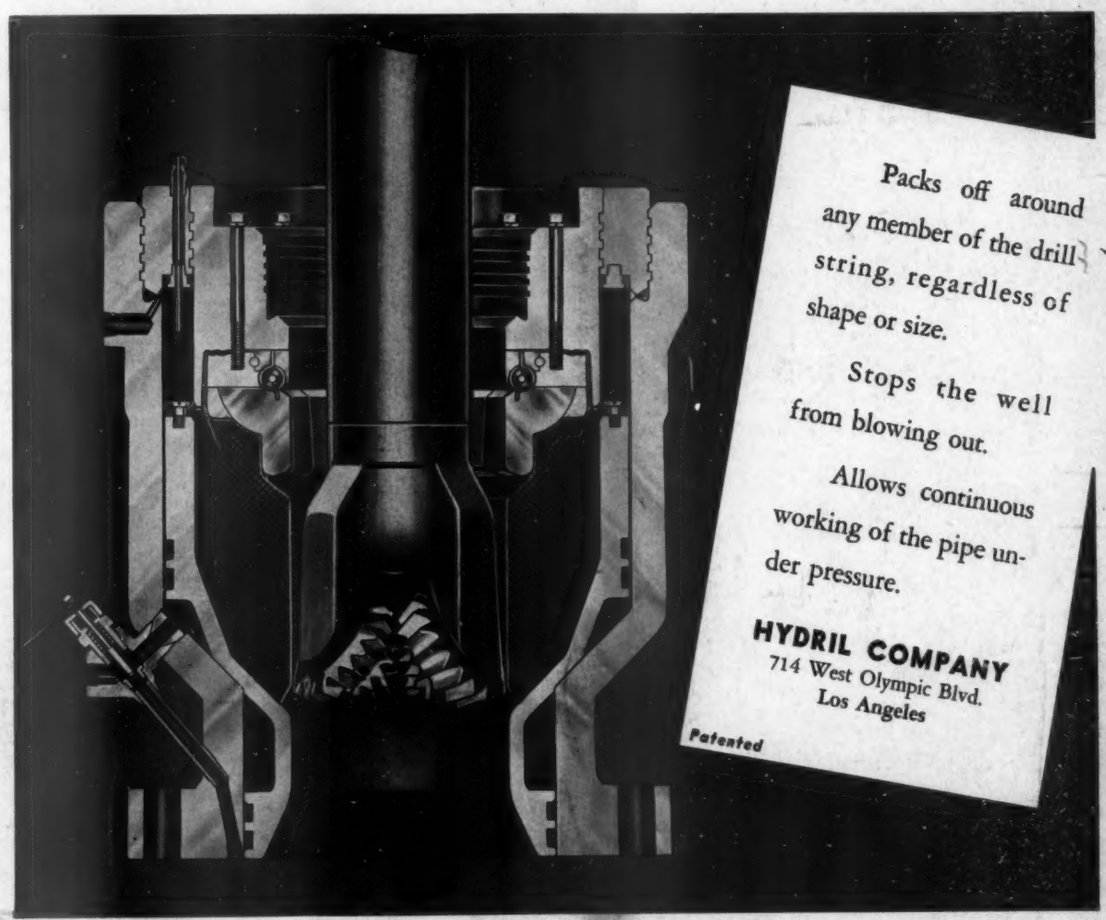

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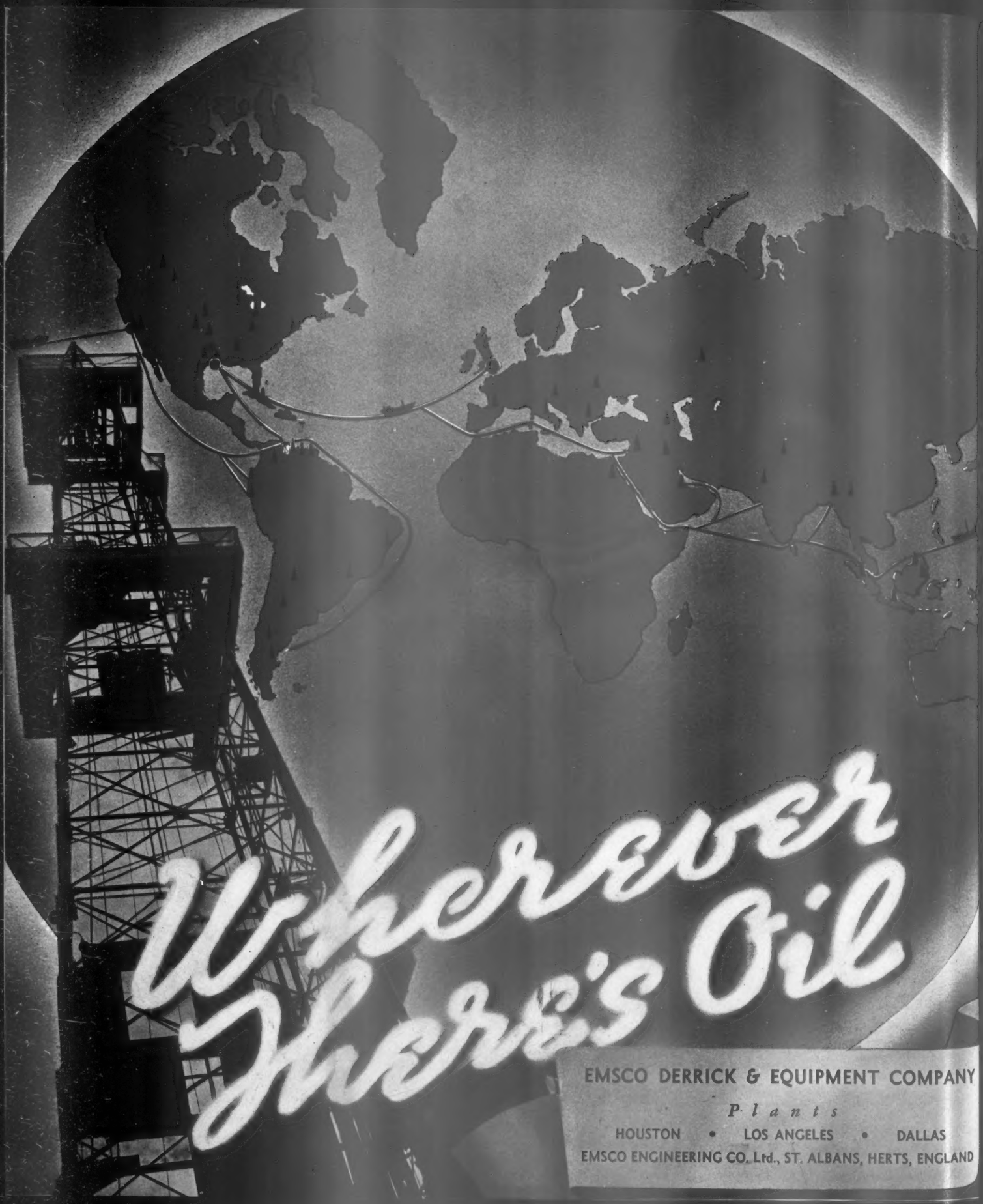

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The Oil and Gas Journal

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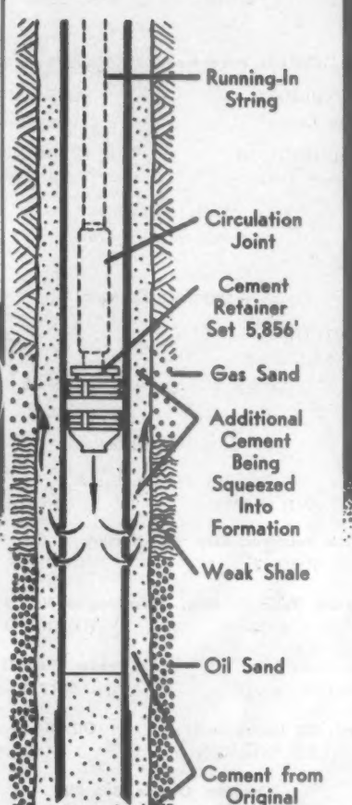

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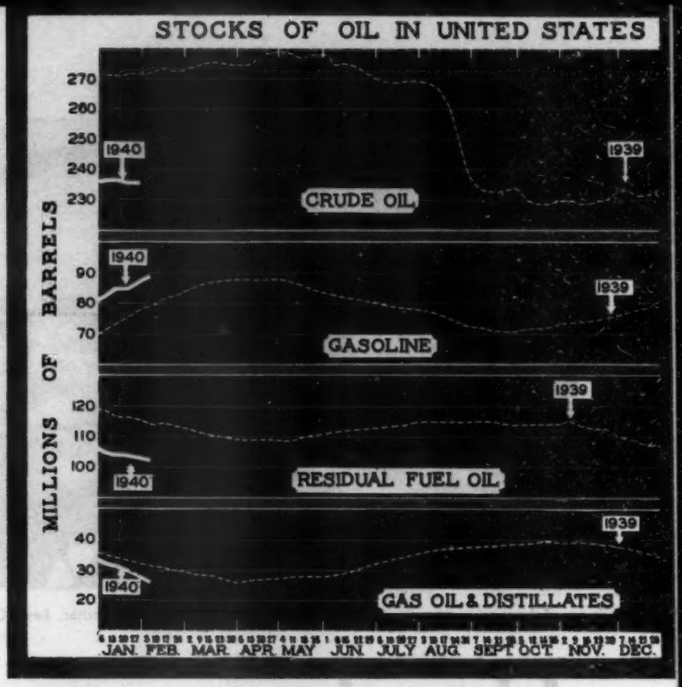
Trends

Position of Crude Buyers Reflected In Office Policies



AS representatives of the oil states gathered in Washington for one of the most impressive demonstrations against federal encroachment of state powers ever staged, there were developments back home which later may have bearing on the oil matters being discussed at the nation's capital.

The most important of these was the reduction in California crude-oil prices by the Standard of California, the first general change in the West Coast's postings in approximately 4 years. The reductions were made on a graduated schedule, with the largest decreases in the low-gravity grades. It was explained that the reductions were brought about by the lower prices for fuel oils, a trend which has been under way in California markets over the past 2 years.

The fact that no large buyer had met the price several days after the change became effective February 1 indicated that the action came as a surprise. It is also additional evidence of the varying positions of crude buyers in all parts of the country. A few years ago a crude-price change by an important buyer, either up or down, was met promptly by other buyers, indicating that their bases of operation were largely the same.

This uniformity of status apparently no longer exists. Last year in the Mid-Continent an attempt to lower crude-oil prices failed to obtain general support, certain companies explaining their situation was not the same as that of buyers who favored the lower crude schedules. Last year large quantities of crude were selling below the posted prices in southwestern states before the August crisis developed, but several large buyers refused to make reductions in postings. At this time there are variations up to 30 cents a barrel in the prices paid for crude on adjoining Illinois leases.

It is explained that these situations are due to changing conditions in the industry which have created wide disparities in operating positions of individual companies regardless of size. These dissimilarities embrace stocks of crude and refinery products; proven reserves; savings in pipe-line transportation costs, including the increasingly important factor of gasoline pipe lines; differences in quantities of crude purchased and produced; merchandising policies, which have a direct bearing on marketing and refinery revenue.

Developments the first of the week indicated that the Texas Railroad Commission will have to drop its plan for a uniform daily proration schedule in that state for February and return, at least temporarily, to a holiday plan of proration. Protests of the past week and a pending court decision may necessitate additional legislation before the state will be able to enforce a satisfactory conservation program.

CRUDE PRODUCTION *3,511,953 bbl. daily average — down 129,355 bbl. One year ago 3,436,154 bbl.*

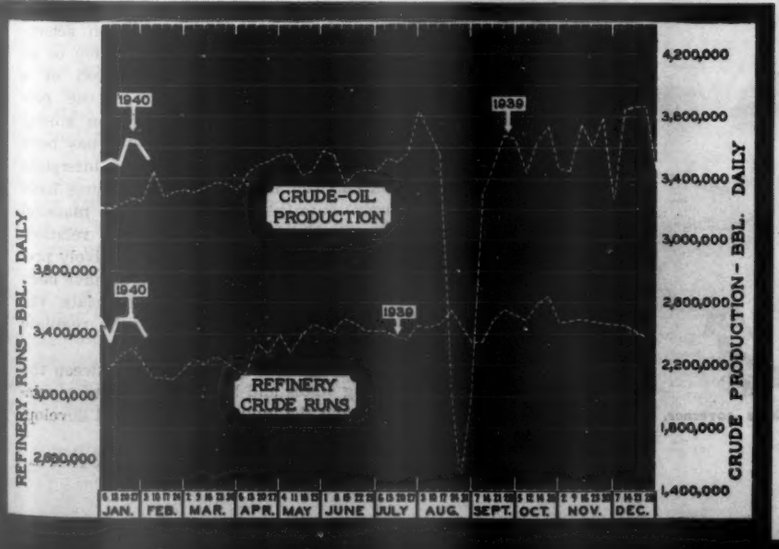
CRUDE STOCKS *237,339,000 bbl. as of January 27 — down 232,000 bbl. One year ago 271,763,000 bbl.*

GASOLINE STOCKS *89,337,000 bbl. as of February 3—up 1,423,000 bbl. One year ago 79,881,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *102,536,000 bbl. as of February 3 — down 479,000. One year ago 115,831,000 bbl.*

GAS OIL AND DISTILLATES *26,861,000 bbl. as of February 3 — down 546,000. One year ago 32,054,000 bbl.*

REFINERY RUNS *3,395,000 bbl. daily week ended February 3 — down 75,000 bbl. One year ago 3,140,000 bbl.*



DAILY AVERAGE PRODUCTION FOR WEEK

	Feb. 3, 1940	Bur. Mines Feb. est. of demand	Feb. state allowables	Jan. 27, 1940
Oklahoma City	87,600	.....	.....	100,100
Seminole fields	40,610	.....	.....	40,400
Remainder of state	290,265	.....	.....	289,625
Total Oklahoma	418,475	429,000	429,000	430,125
East Texas	394,598	.....	.....	394,388
West Texas	195,848	.....	.....	243,060
North Central Texas	117,000	.....	.....	112,646
Texas Panhandle	69,997	.....	.....	82,609
East Central Texas	66,940	.....	.....	82,000
Gulf Coast	311,200	.....	.....	354,186
Southwest Texas	82,904	.....	.....	97,995
Total Texas	1,238,487	1,371,400	1,390,151	1,366,884
North Louisiana	68,375	.....	.....	69,700
Gulf Coast Louisiana	203,247	.....	.....	203,697
Total Louisiana	271,622	252,800	273,253	273,397
California	597,250	585,900	594,000	611,750
Kansas	181,600	155,500	165,000	167,750
Arkansas	70,660	60,000	70,000	69,900
Mississippi	4,600	700	.....	4,600
Eastern fields	103,000	108,900	.....	103,200
Illinois	373,300	325,500	.....	357,118
Michigan	63,279	64,500	.....	63,824
New Mexico	102,860	100,300	113,000	102,930
Rocky Mountain area	86,820	74,500	.....	89,830
Total United States	3,511,953	3,529,000	.....	3,641,308

Arkansas' governor, Carl E. Bailey *Oklahoma's governor, Leon C. Phillips* *Kansas' governor, Payne H. Ratner* *Mississippi's governor, Paul B. Johnson*

Spokesmen for Oil States Oppose Cole Bill

By HENRY D. RALPH

As representatives of the oil-producing states resumed arguments against federal control before the Cole committee at Washington it was announced in New York that the industry's opposition would be presented to the committee February 19 by representatives of every phase of the industry (See page 15)

WASHINGTON, D. C., Feb. 6.—Vigorous opposition to the Cole bill for federal regulation of oil production was presented to a subcommittee of the House this week by representatives of oil-producing states.

A parade of eight governors of oil states filed into the committee room when the hearings opened. Later, led by Governor Phillips of Oklahoma, the governors of Montana, New Mexico, Wyoming, Arkansas, West Virginia, and Kansas called on the president at the White House to protest against the bill. Governor Phillips stated they did not ask Mr. Roosevelt to pass on the bill and he had not done so.

The opening statement to the committee was made by Governor Ratner of Kansas, who made a blistering attack on the Cole bill and vigorously defended the way in which his and other oil states have dealt with the problem of preventing waste in production. In addition to the subcommittee, a large number of members of Congress gathered to hear the governors, and Governor Ratner's presentation undoubtedly made a forceful impression. Governor Ratner said:

"We recognize that changed conditions may justify new policies, but we must also recognize that innovations are not justified merely because they are new, and federal control is neither necessary nor desirable simply because conservation can be used as a legitimate objective. This committee is to decide whether it is necessary for the federal Government to regulate a great industry to prevent waste and whether such a policy would endanger or destroy those things which have been developed under state control and regulation. I appear before you today to urge that neither this type of legislation nor any form of federal control is necessary.

"Progressive amendments to this statute have given the commission of my state every power reasonably necessary to enable it to prevent waste in any of its forms. We realize that the administration of the statute has not been perfect, but, on the other hand, the effectiveness of our regulations to prevent waste has progressively increased until conservation is an accomplished fact in Kansas.

"There may be instances which require additional regulation, but the state law, the commission which administers it and I, as governor of the state, stand ready, willing and able to search out and prevent waste, if any exists within the State of Kansas.

"The increasing experience of 10 years of waste prevention has resulted in the establishment of a state agency fully prepared to cope with any of the numerous problems arising out of conservation. These years of experience have shown the wisdom of conservation. If some states, lacking experience as major oil-producing states, have not enacted adequate conservation laws, the states which have should not be penalized by unnecessary federal regulation.

"We have found it advantageous to cooperate with the oil industry. Since conservation is mutually beneficial to the oil states and to the industry, as well as to the nation, cooperation effectively aids in the prevention of waste. We have endeavored to utilize the knowledge and experience of the industry, and at the same time to give its representatives an opportunity to know our administrative problems. This has been accomplished in my state by the creation of an oil advisory committee composed of a representative cross-section of the producers. Furthermore, cooperation among the several oil-producing states has been accomplished by means of the interstate oil compact in which member states have representation. Permanent and material benefits have flowed from this relationship. Waste has been more effectively prevented, and the parties involved have been able to understand and appreciate the problems and difficulties of those who regulate and those who are regulated.

"Mutual understanding and respect between the oil-producing states and between the state regulatory bodies and the industry is a gradual develop-

New Mexico's governor, John E. Miles

ment. It must be based upon confidence which comes from experience. The practical results in less than 10 years show remarkable progress; the program, I believe, should be encouraged and perfected, not quashed.

"Proration involves a dual program—curtailment of excessive production and the allocation of allowed quotas. This has been handled under the police power of the several states which have surplus potential production, primarily from the standpoint of preventing physical waste, but, in Kansas at least, also to bring about and maintain stability in this important basic industry with its vital influence upon our state and national economy.

"The oil industry in 1940 finds itself able to serve the public better with crude-oil storage less than half that of 1930, although the current rate of consumption is almost 50 per cent greater than in 1930. These conditions are almost wholly the result of proration and conservation programs now endorsed by practically all of the major oil states.

"Where are the facts that demonstrate that the nation should fear a shortage of oil or gas in any emergency and where do they demonstrate that the states have failed to assure an adequate supply?

"We agree that it is necessary and desirable to restrict the production of individual wells to prevent waste of gas, loss of pressure and undue encroachment of water, but such restraints as are imposed upon an individual well must take into consideration the rights and equities of its owner and also of the owners of other wells. It is significant that the Cole bill does not recognize that any rights or equities are involved, for it does not contain a single provision which mentions proration or correlative rights.

"Price levels over the past 20 years effectually refute any charge that proration, as enforced by the states, is merely a price-fixing scheme. It is true that proration has smoothed the curve of price fluctuations. It has eliminated those anomalies of the complete economic cycle annually, but such price gyrations were harmful both to the oil industry and to the consuming public. To seize upon the price levels during the past 6 years, which represent adjustments from the extreme low world-wide depression, to prove an allegation that curtailment of production to bring supply into balance with demand was the cause of the price advance above the crisis levels is unrealistic. The highest prices of the last 20 years were witnessed before state proration statutes were generally adopted. It is the rise from the bankrupt levels to stability at a fair price, to which opponents of orderly withdrawals point as evidence that proration has fixed prices. If this were true we should have seen steadily strengthening crude prices, because proration enforcement has increased in recent years. On the contrary, crude-oil prices have recently tended to weaken under proration. Another complete refutation of those mistaken allegations of price fixing becomes apparent by comparing crude prices with general raw-material prices and even with grain prices. Raw-material and grain prices have remained substantially above crude-oil prices since conservation has developed, even though the law of the jungle has been abandoned.

"Actually, proration has decreased the cost of motor fuel to the public. Furthermore, the full benefits from a scientific and orderly production are ahead of us and not behind us.

Best Interests of Consumer

"Under a program of sound and sane balance between supply and demand there is no occasion for any substantial amount of any commodity such as crude oil to sell for long below its cost of production. Nor are the best interests of the consuming public well served thereby because the continuation of such a situation will reduce, if not eliminate, the ever-necessary search for additional reserves to supply future demands. The Cole bill does not propose to meet this situation. It does not propose to enable the industry to maintain reserves adequate to assure the national defense. On the other hand, it does propose to permit the industry to produce large quantities of oil daily in excess of economic requirements, if the wells producing the oil can do so without causing physical waste therein and if storage facilities are available, and I submit storage of crude oil aboveground is economic waste.

"If economic needs are to be satisfied by nonwasteful production, or if reserves adequate to the national defense are to be maintained, the industry must be capable of producing more oil than can be consumed. While this capacity must exist, its production must be restrained. By this means the economic welfare of the nation generally will be served along with the industry.

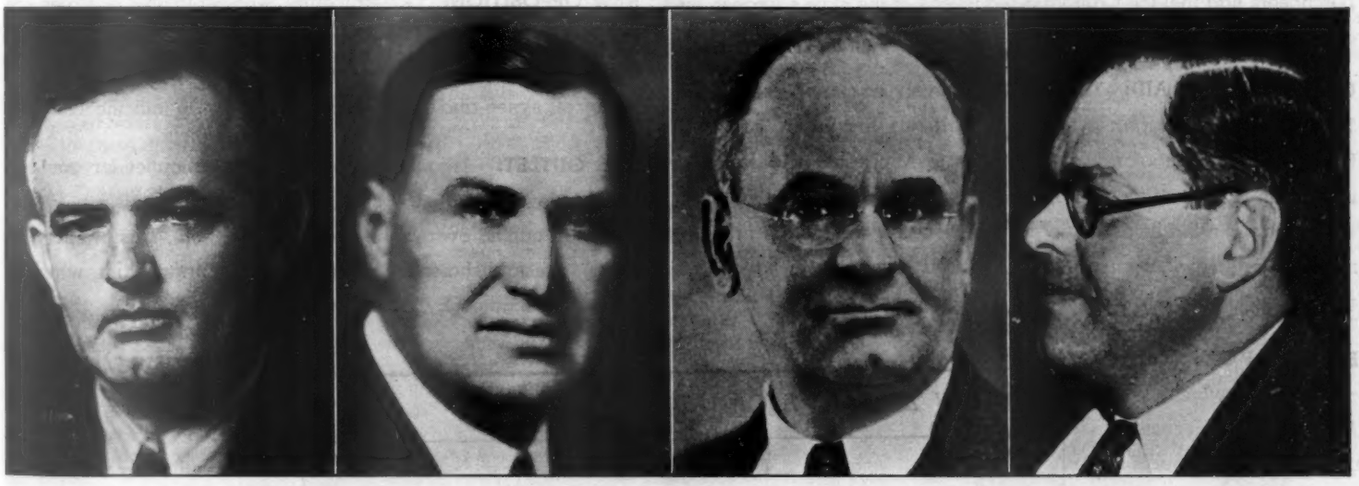
"The national Government has no police power. It cannot pass laws designed to promote the general welfare on that ground alone. On the other hand, the states possess police power and can provide not only for the conservation of crude oil and natural gas, but enforce legislation designed to promote the discovery of adequate crude-oil reserves by assuring the prosperity of a primary industry.

"As developed within the last 10 years, and particularly within the last five, state conservation presents an example of mutual cooperation within an industry, and with the state and federal governments, a control which prevents waste and tends toward a reasonable economy but without rigid regimentation. Competition remains keen and aggressive, the number of individual oil producers shows annual increases, private initiative has not been destroyed. New inventions and technological improvements continue and better products have been constantly supplied to the public at reduced prices.

"The enactment of the Cole bill will destroy the inherent rights of the states to exercise their police power to conserve their natural resources. The state and federal governments would attempt to supervise the same pools, and, although the industry would be thoroughly regulated, the producers themselves would be confronted with serious dilemmas. The states would prescribe certain regulations while the federal commissioner, due to differences of opinion between experts, might prescribe different rules. The producers would attempt to serve two masters, but their task would be an impossible one; the inevitable result would be a conflict between state and federal authority. Ultimately the matter would be brought to the attention of the courts and the result

(Continued on Page 15)

Michigan's oil and gas supervisor, P. J. Hoffmaster



Mississippi's oil and gas supervisor, H. M. Morse

New Mexico's former lieut. governor, H. M. Dow

Michigan's state geologist, R. A. Smith

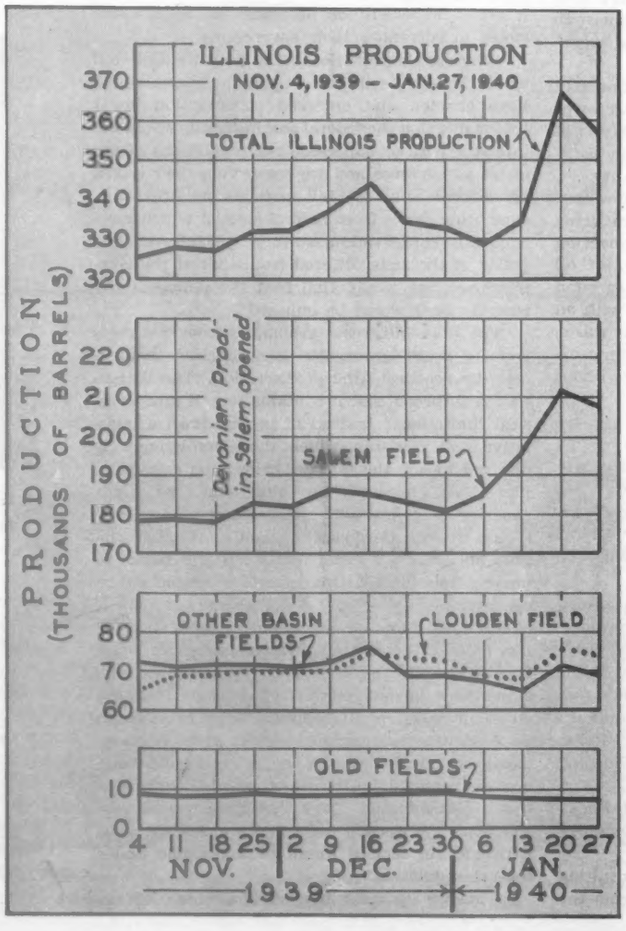
California's former assistant umpire, R. E. Allen

Devonian Development Forces Illinois Production Upward

By HARRY F. SIMONS

Illinois production is going upward rapidly, the daily average last week mounting to 373,000 bbl. daily with 366,000 coming from fields discovered in the last 3½ years. The recent increase has come in the Salem field due to the development of the Devonian-lime horizon with production from that field mounting from 179,000 bbl. daily at the first of November to 229,000 bbl. at the end of January

Above: Laying a 10-in. gravity line to station in Salem pool. Right: Illinois production history of the past 3 months shows dominance of Salem pool



ILLINOIS crude-oil production jumped ahead of pipe-line capacity last week with a new all-time high of 373,300 bbl. daily, which caused those who had placed a limit of 400,000 bbl. daily on the state by late spring to revise their opinions and admit they may have once more underestimated conditions. Just how much of this oil was being run to stills, how much was being used to fill new pipe lines and how much was run to storage is not yet known. The record week's run gave some indication of what may be expected as the Devonian lime continues to be developed in the state and was partially due to preparations for continued flush production from the Devonian.

The Salem field in Marion County accounted for most of the increase, with a production high of 229,300 bbl. daily, and at the same time reported the completion of two record-breaking wells, a 7,380-bbl. producer and a 10,000-bbl. producer, both from the Devonian lime and both in Section 29-2n-2e. The new record holder, Paul Rossi's No. 9 Brooks, SW NE SW Section 29, is approximately a mile and a half southwest of the Devonian discovery well in the pool, the Kingwood Oil Co.'s No. 18 Shanafelt in Section 20-2n-2e. The well flowed 132 bbl. per hour through a $\frac{1}{16}$-in. choke until tankage on the lease was filled; the potentiality of the well was based on the 438-bbl. flow during the third hour after it was acidized with 5,000 gal. of acid. The record well is located near the highest portion of the structure, although several other wells have found the pay equally as high. The highest well in the field to date is the Texas Co.'s No. 21 Frederick A, which had the pay at 3,362 ft., 8 ft. higher than any other well in the field. Indications are that the Devonian structure follows closely the overlying Chester and McClosky structures and the largest producers in the three horizons will be located in the south part of Township 2n-2e and the north part of 1n-2e.

Twenty-five wells have been completed in the Devonian lime at Salem since the discovery late in November. These wells have averaged 3,723-bbl. initially and many of them have not been gaged for the full 24 hours. The average depth of the top of Devonian has been 3,342 ft., while the pay section has been found approximately 52 ft. in it or at an average depth of 3,394 ft. The pay has averaged 46 ft. in thickness in the wells completed to date. The wells have all received heavy acid treatments of from 2,000 to 5,000 gal., but this is not any more acid than was used on the McClosky wells. Completion pressures are high, the gages showing around 1,000 lb. per sq. in. Gas accompanying the oil has considerable volume, one 3,000-bbl. producer producing 35,000,000 cu. ft. of gas, or an oil-gas ratio of 1/11,500.

The chart shows the recent produc-

tion record of the state and indicates that Salem is responsible for all of the increase in production, the trend being generally upward since the discovery of the Devonian production and rising sharply beginning with January 1, 1940, due to the increasing number of completions in the deeper formation. Production from Louden and other basin fields continues at approximately a constant level, varying between 65,000 to 75,000 bbl. daily over a 13-week period. From the first of November 1939 to the last of January 1940 there was an increase of 720 wells in the state while the production in the same time increased 40,848 bbl. or an average increase of 56 bbl. for each new well added. More pertinent is the breakdown of the recent completion and production record of the various fields. Salem increased 223 wells during the period and its production increased 28,220 bbl., or 126 bbl. per well added. Louden showed an increase of 138 wells, 8,613 bbl. in daily average production, and an average increase of 62 bbl. per well added. The other fields in the basin had 259 wells added, but their production decreased 4,015 bbl., or a decrease of 15 bbl. per well added. The latter indicates that many wells in the area were falling off rapidly and the new completions could not keep pace with this decline.

Salem operators have definitely jumped into the race for Devonian production with considerable fervor. At the present time there are 92 Devonian tests drilling in the Salem pool; there are also 40 tests drilling to the Chester and McClosky pays. Principal cause of the hurry to get to the Devonian horizon is not the necessity of increasing the state's production, as any increase in the market outlook for the area must be gained through a hard struggle, but it is rather the desire on the part of lease owners to prevent offset operators from draining their property. The weather has been rather favorable, the subzero temperature freezing the ground hard and keeping it in that condition for the past several months. This has allowed the ready moving of equipment, although the field workers have had to suffer a few frost bites as a result. As soon as the ground starts to thaw, moving conditions will become impossible and the costs per well will go up. This is one reason for the rush to get as many wells as possible completed in the new deep horizon.

Heavy Sand Production

While the development of the Devonian has caused the sharp increase in production in the past month, the field could have produced that much late last fall due to the completion of good sand wells in the north part of Township 1n-2e and the south part of 2n-2e. Late in the summer Texas Co. began working on acreage which had been deferred until the race for McClosky production in other areas had run its course; these leases had been protected by drilling the outside locations. During the latter part of November and the first part of December that company completed a large number of Benoist and Aux Vases-sand wells in Sections 4, 5, 6, 7, and 8-1n-2e and in Sections 29, 30, 31, and 32-2n-2e. Eighteen of these wells averaged 1,900-bbl. for a total initial of 34,208 bbl. Some of these were in the Benoist and some in the Aux Vases, but they were mostly combination completions with production coming from both sands. The highest initial of the group was recorded at the Texas Co.'s No. 14 Tate, SE NW NW Section 5-1n-2e, which flowed 3,428 bbl. from the Benoist and Aux Vases sand at 1,710-1,800 ft. after a shot. Location of the well is on the highest portion of the structure and on the same lease with the pool's discovery well.

The McClosky lime production declined sharply during the past year and new wells, located as favorably structurally as those making 3,000 bbl. when completed in the spring, now show only 300-bbl. initially. Acid treatments are as heavy as formerly, but the pressure has gone from the formation and much of the oil has been drained from it. Most of the wells are completed on the pump and recent flowing completions in the McClosky have not lasted long. The field's production will be sustained mostly by the production from the Benoist, Aux Vases, and the McClosky for the the next several months, but the Devonian will contribute more as drilling continues.

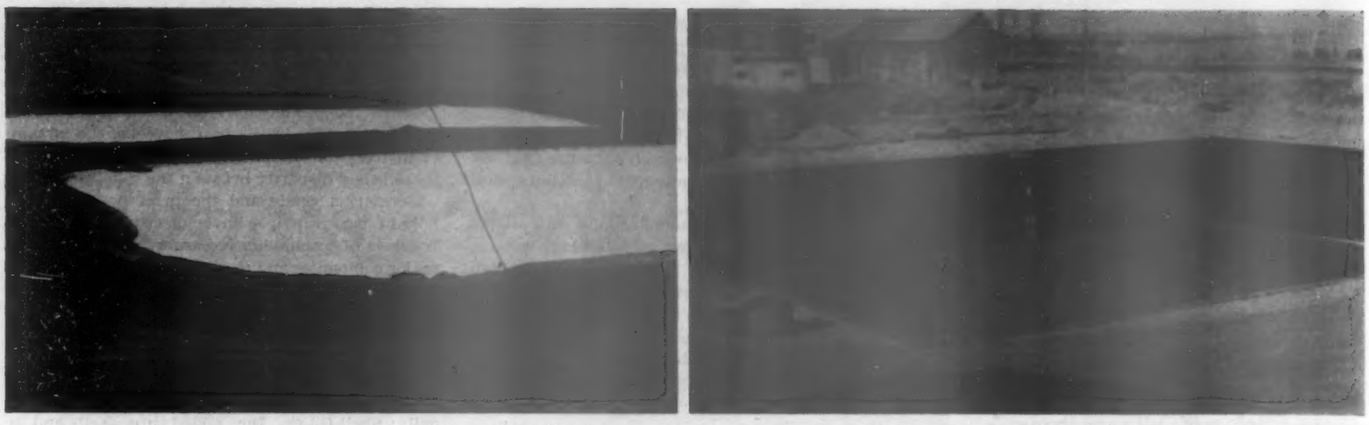
The Devonian wells decline rapidly, the production curve resembling the curves of wells producing from the Traverse formation in Michigan, which is also Devonian in age and very similar to pay horizon in the Salem field. There has been no positive correlation of the two formations, but they are acknowledged to be close together in the stratigraphic column and they evidently have similar production characteristics.

Principal deterrent to the drilling campaign at the present time is the dissatisfaction of contractors over the price obtained for their work, the producers attempting to get the wells drilled for the same price per foot as the shallower-sand and McClosky wells. Drilling below the McClosky brings with it hard formations which raise the bit costs sharply and are hard on drill pipe; there are also several porous streaks where circulation is lost and large quantities of artificial mud are required, and the danger of sticking the drill pipe is greatly increased by the loss of circulation and the hard formations.

Production Increases

While the production from Salem has been increasing rapidly in the past 4 weeks, the amount of distress oil has not increased appreciably and there is less disparity between the sale price of the undermarket crude and the price posted by the Sohio Corp., principal buyer of crude in the state. Increase of production has come mostly from the major companies and two independents, Kingwood Oil Co. and W. C. McBride, Inc. During the time crude production was rising from 185,000 bbl. daily to 213,000 bbl. daily, Texas Co. added 32 wells and increased its daily production 1,500 bbl. to 101,700 bbl.; Magnolia Petroleum Co. added seven wells and increased its production 8,000 bbl. to 40,000 bbl. daily; Shell Oil Co., Inc., added three wells and increased its daily production 5,200 bbl. to 12,600 bbl.; Kingwood Oil Co. added three wells and increased its production 5,700 bbl. to 16,600 bbl., and W. C. McBride, Inc., added one well and increased its daily average production 7,400 bbl. to 10,800 bbl. Tide Water Associated Oil Co. did not add any wells, but increased its production 150 bbl. Ohio Oil Co. did not add any wells and showed a decrease of slightly over 300 bbl., and other independents in the field added nine wells but showed a decrease of less than 100 bbl. in their daily average production.

Top: Close spacing in the north end of Salem field where a small strip contains several wells to each of the productive horizons. Bottom: A rotary rig on Magnolia Petroleum Co.'s camp site has canvas windbreaks



Water disposal is a problem for Silica-Ellinwood operators. Left, solar-disposal pond; right, tank for treating water for disposal well

Widespread Activity Is Planned for Ellinwood District in 1940

By DAL DALRYMPLE

AN extensive oil field is being developed in the Ellinwood district of southeastern Barton County, Kansas, where several discoveries and extensions were recorded in 1938 and 1939 — an area that promises to be one of the busier Kansas sectors throughout 1940, as both major and independent operators go about the business of extending the already big Silica field in the general direction of the Pacific Ocean.

It looks like Silica, the eastern limits of which yet are to be defined in Rice County, eventually will gobble up the several pools in the vicinity of Ellinwood as development continues westward. Already, the original Ellinwood pool and the South Silica pool have become a part of Silica, the consolidation coming as a result of developments in recent months. The North and West Ellinwood, Clawson, and Hagen pools seem to be in the westward trend and may become a part of Silica before many months.

Reflection in pits—globules of oil in the mud resemble clusters of snow

When Hilligoss & Torrey and associates opened the Isern pool in SW SE NE Section 12-20-11w, about 6 miles southeast of the town of Ellinwood, in November 1930, they started a program of development that has been carried on more or less conservatively but continuously over a period of 8 years. The Isern discovery in Barton County was followed in February 1932 by the opening of the Steckel pool in C NE NW Section 31-19-10w, across the line in Rice County, by Gypsy Oil Co. Subsequently the two pools were connected, forming Silica. Extensions have been numerous on both sides of the county line, and a few months ago Lansing-lime production was uncovered in the Rice County sector of the field. Production in the Ellinwood area and most of Silica is from Arbuckle lime.

Silica production was extended westward in Barton County until it covered all or parts of Sections 25, 34, 35, and 36-19-11w and Sections 1, 2, 3, 8, and 9-20-11w. In the meantime, other pools were opened in the Ellinwood district.

First of these was the Ellinwood pool, opened in July 1932, by Midwest Exploration Co. in C SW SE Section 9-20-11w.

More than 3 years elapsed before the next discovery was recorded with the opening of South Silica, originally called the Peter pool, in November 1935. It was discovered by Lario Oil & Gas Co. in NW NW NW Section 24-20-11w.

The three pools became one late in 1939 as a result of numerous extensions and the completion of producing wells in the intermediate area. Completion of Arbuckle-lime producers in NE¼ Section 15-20-11w was the immediate cause of the Kansas Nomenclature Committee of the Mid-Continent Oil and Gas Association recommending that they be classed as one field. Commenting on completion of the connecting wells, the committee said:

"They constitute offset production to the Silica field. Also, the committee knows of no structural or stratigraphic reason that they should not equally well be classified in the Ellinwood field. Moreover, production now is only ½ mile distant between Silica and Ellinwood and between Silica and South Silica. These three areas of production comprise one regional structural feature and have the same common source of supply. Therefore, join Silica, Ellinwood, and South Silica and call Silica."

With that action Silica became an area embracing 21,480 acres, a sizable oil field in any state. The proven limits of the field, including the Rice County sector, are as follows: SE¼ Section 22; SW¼ of 23; W½ of 26; all of 27 and 28; S½ of 29; S½ of 30; all of 31, 32, 33, and 34; W½ of 35-19-10w; S½ of Section 25; S½ of 34; SW¼ and E½ of 35 and all of 36-19-11w; N½ of Section 3 and all of 4, 5, and 6; N½ of 7; SW¼ of 19; that portion of the NW¼ of 19 lying south of the Arkansas River, and NW¼ of 30-20-10w; all of Sections 1, 2, 3, 4, 5, 8, 9, 10, 11, 12; NE½, NE¼, and W½ of 13, together with that portion of the SE¼ of 13 lying south of the Arkansas River; all of 14, 15, 16, 23, 24, 25, and 26-20-11w.

Open Seven Pools

Seven other pools were opened in the Ellinwood district after the discovery of South Silica.

The North Ellinwood pool was discovered in July 1937 at Stanolind Oil & Gas Co.'s No. 1 Schartz, NW cor. Section 33-19-11w, for initial production of 541 bbl. of oil daily from Arbuckle lime at 3,328-50 ft. Later in the year the west offset was completed as an Arbuckle producer. The north offset to the discovery was dry. There has been no other development in that immediate sector.

The West Ellinwood pool was the first of four discoveries in 1938. It was opened by Crown Pe-

troleum Co. and C. E. Ash in Section 7-20-11w, for initial yield of 473 bbl. of oil daily at total depth of 3,352 ft. in lime.

The same operators opened the Wolf pool a few months later in Section 36-19-12w, just west of the town of Ellinwood.

The Wolf discovery well was completed for initial daily potential of 501 bbl. of oil at total depth of 3,374 ft. in Arbuckle lime.

They were not to remain as separate pools for long. Ash, Hershey, and Crown Petroleum Co.'s No. 1 Ernsting, CWL NE SE Section 1-20-12w, midway between Wolf and West Ellinwood pools, was showing for an Arbuckle-lime producer early this year. That led to a recent recommendation of the nomenclature committee, combining them as West Ellinwood, described as follows: S½ of Section 36-19-12w; all of Sections 1 and 12-20-12w, and W½ of Section 7-20-11w.

The Hagan pool was opened late in 1938 by A. G. Kaiser and Gerbrand-Pulse Drilling Co. in SW cor. Section 20-20-11w. It was bottomed at 3,330 ft. in Arbuckle lime and made initial daily potential of 669 bbl. of oil. South and west offset tests failed to find production. No other close-in well has been drilled.

The Clawson pool also was a late 1938 discovery. It was opened by Virginia Drilling Co. in Section 17-20-11w. The discovery well made initial daily potential of 679 bbl. of oil from Arbuckle lime at total depth of 3,299 ft.

Most Recent Strikes

Two new pools were opened in the Ellinwood district in 1939. York State Oil Co. discovered the Marchand pool in NE¼ Section 24-20-12w, with an initial 559-bbl. well at total depth of 3,320 ft. in Arbuckle lime.

A few weeks later C. E. Ash and others uncovered production in NE cor. Section 23-20-12w, to open the West Marchand pool. The discovery well was bottomed at 3,358 ft. in Arbuckle lime and made initial potential of 273 bbl. of oil.

The two Marchand pools were not to retain their separate existence for long. Soon after they were opened Frank Hollow and others completed their No. 1 Schartz, SE SE NW Section 18-20-11w, midway between Clawson and Marchand, for temporary potential of 107 bbl. of oil from Arbuckle lime. Accordingly, the Marchand and Clawson pools were joined, the enlarged area being given the name of the latter.

A few weeks ago Continental Oil Co. completed its No. 1 Scheuffler, NW cor. Section 24-20-12w, for an Arbuckle-lime producer with maximum allowed potential of 3,000 bbl. of oil. As a result, the nomenclature committee added West Marchand to the Clawson pool, and described greater Clawson thus: W½ Section 17; all of 18; N½ of 19-20-11w; E½ and SW¼ of 13; SE¼ of 14; NE¼ of 23, and N½ of 24-20-12w.

Seismograph exploration in the Silica-Ellinwood district, Barton and Rice counties, Kansas

Potentials and Allowables

The Corporation Commission report for January 1940 included the following information on pools in the Ellinwood district:

Silica field, 503 wells on production, with total potential of 469,888 bbl. daily, with net January allowable of 368,872 bbl.

South Silica, 86 producing wells, total potential 123,353 bbl. daily, net January allowable 76,472 bbl.

Ellinwood pool, 16 wells, total potential 7,244 bbl., net January allowable 16,582 bbl.

North Ellinwood, one well on production, daily potential 208 bbl., net January allowable 648 bbl.

West Ellinwood, four wells, total potential 874 bbl. daily, net January allowable 882 bbl.

Clawson, five wells, total potential 9,591 bbl. daily, net January allowable 4,281 bbl.

Hagen, one producing well, potential 612 bbl., net January allowable 721 bbl.

Marchand, five wells, total daily potential 8,837 bbl., net January allowable 5,964 bbl.

Marchand, five wells, total daily potential 8,837 bbl., net January allowable 5,964 bbl.

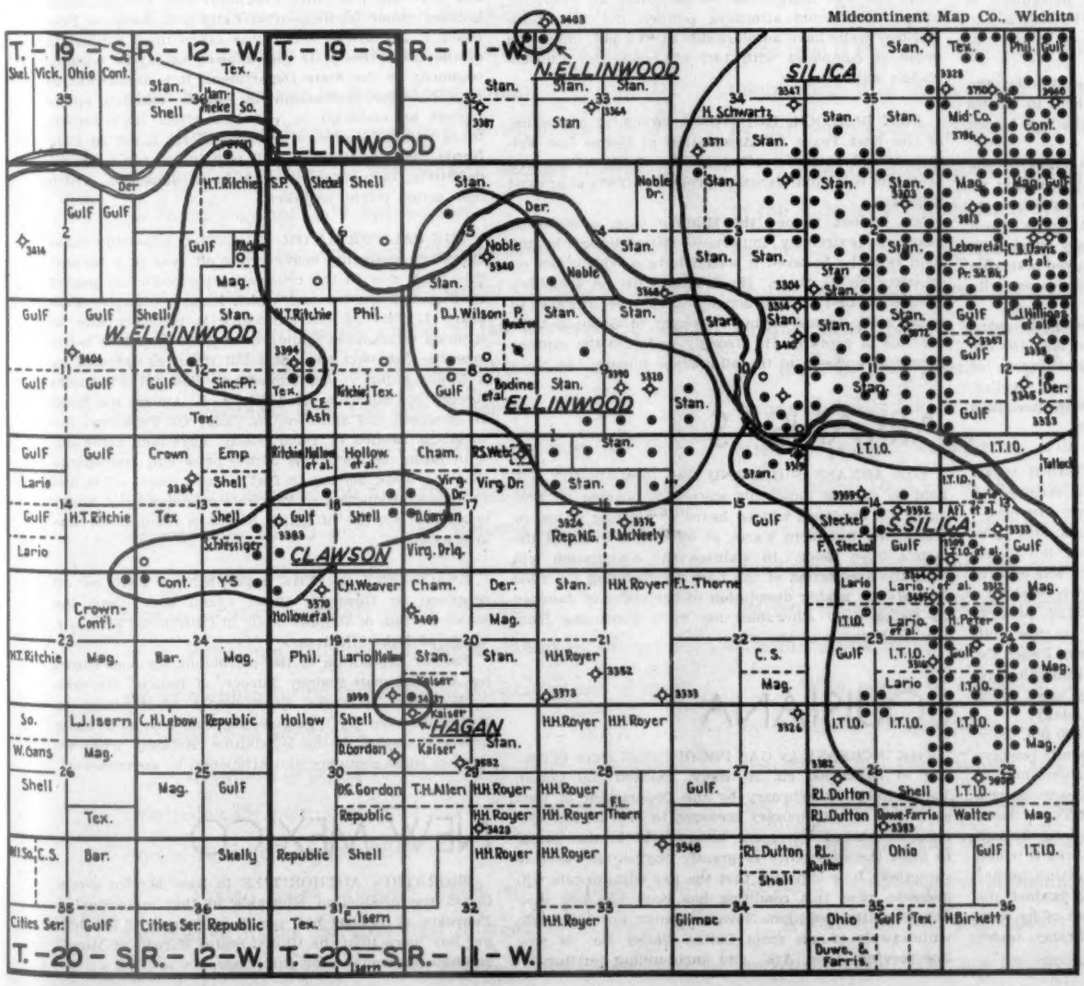
West Marchand, one completed well (the Continental Oil Co.'s link well had not been added to the proration report), potential 269 bbl., net January allowable 1,339 bbl.

Many dry holes have been drilled in the Ellinwood district, but operators familiar with the area declare that a failure condemns only the one location. A glance at the map will show justification for that statement. Numerous producing wells are offset by failures, and in some sectors dry holes have offset producers on three or four sides. It is not unusual for an operator to complete a producer, offset it with a dry hole, move right off the condemned location and completed another producer on the side opposite the original producer.

The map shows dry holes spotted all over the Ellinwood area, but it also shows thousands of acres of probable productive land yet to be drilled. Operators already are going into intervening areas between the enlarged Silica, Clawson, and West Ellingwood pool in their search for new production. Eight or ten tests now are being drilled in the dis-

(Continued on Page 24)

Midcontinent Map Co., Wichita



The Ellinwood district promises to be one of the busier Kansas areas, with the expanding Silica field threatening to absorb proven areas to the west

STATE CAPITALS

TEXAS

TEXAS OIL FIELDS will be restored to a 4-day production week at once if Attorney General Mann holds that Railroad Commissioner Thompson, now in Washington, can authorize his signature to the order by telegraph, Commission Chairman Lon Smith announced today. Mr. Smith stated he favored such action and Colonel Thompson has offered to join in the signing.

No reply had been received from Commissioner Sadler in response to an inquiry about his attitude. Whether Commissioner Thompson can legally sign by telegraph was submitted to Mr. Mann with the request that an opinion be given as soon as possible.

The proposed return to the January basis would be effective until after the state-wide hearing is held on February 16.

Chairman Smith left for Washington Tuesday morning, but before leaving he made public the following telegram from Thompson:

"In view of lawsuits and in order to give everyone affected a full hearing, I am willing to vote with you to rescind February order because of lateness of getting out schedules and to reinstate January order until after February hearing. This should afford all affected full opportunity to be heard."

Widespread dissatisfaction with the February proration order led to steps toward rescinding it and reinstating the January order.

In the February order the Railroad Commission had done away with all shutdown days except in East Texas.

ALL THREE COMMISSIONERS are on record as opposed to the Cole regulation bill, which, should it pass, would "wipe out what is left of state rights," they have declared.

Stanford Payne, chief supervisor of the Oil and Gas Division of the Texas Railroad Commission, today wired Congressman South, who is the Texas member of the Interstate Commerce Commission, to oppose the Cole bill. Payne believes the entire Texas delegation is against federal control. Governor O'Daniel sent a similar wire to all Texas congressmen.

CHAIRMAN LON A. SMITH announced Monday the next state proration hearing would be held in Austin February 16 to receive evidence on which to base March production quotas.

Smith said the hearing notice would embrace the customary topics, and it was not contemplated that refiners and major purchasers would be called on to supply detailed data on the condition of stocks. Such a proceeding was suggested at the February hearing by Charles F. Roeser, of Fort Worth, and received favorable consideration by Commissioner E. O. Thompson, who indicated the plan might be adopted.

It would be impossible for the commission to undertake the task of assembling the statistical data for the hearing even after the return from Washington of Thompson, Smith, and Commissioner Jerry Sadler. Under Thompson's suggestion, officials would be asked to supply the information in affidavit form.

THE FEBRUARY OIL PRORATION ORDER issued by the Railroad Commission of Texas was received by operators according to how it affected their interests—in those areas which received higher allocations, operators were satisfied and made no comment, but in the districts receiving allowable cuts the order was bitterly criticized. In the West Texas district, which received a net allowable cut of about 22,000 bbl. daily, protests against the order were most numerous. In the Gulf-McElroy field of Upton County the McElroy Ranch Co. (fee owner) was granted a temporary injunction restraining the enforcement of the February order which cut the allowable from 5,297 to 2,250 bbl. daily.

Despite an allowable increase of some 6,000 bbl. daily, many East Texas-field operators and royalty owners protested the February order as being discriminatory because the field was placed on a 4-day-a-week production basis instead of 7 days as in other Texas fields. On Saturday the East Texas Oil Association, through Executive Vice Pres. H. P. Nichols, announced it would proceed immediately to institute court action, either joining in injunction suits now pending against the commission's orders or instituting litigation of its own. This action was urged at a meeting on Friday, under the association's auspices, in Dallas.

The temporary injunction against the order in the Gulf-McElroy field was granted by federal District Judge R. J. McMillan at Austin on Thursday. Plea for an injunction is scheduled before a three-judge federal court on February 12, at which time Humble Oil & Refining Co.'s suit against the present method of proration in the East Texas field, and other litigation involving the field, will be heard.

Under the restraining order Gulf-McElroy field will be permitted to continue to produce 5,279 bbl. daily, the amount allowed during January. Gulf Oil Corp., operator of all the wells in the field but not a plaintiff, contended that an allowable of 4,800 bbl. in the Church-Fields pool with 6,000 proven acres would result in gas equalization and thereby drainage from the Gulf-McElroy pool with an allowable of 2,250 bbl. for 9,500 acres. The two fields produce from the same structure, but Church-Fields has a much lower reservoir pressure due to its greater well density, Gulf-McElroy having a well density of about one well to 100 acres while the other has a density of about one well to 20 acres. In defending the February order, commission attorneys pointed out that Gulf-McElroy wells have an allowable of 24.2 bbl. under the order as compared with 14.7 bbl. daily for Church-Field's wells.

JACK BLALOCK, HOUSTON attorney, at a meeting of the East Texas Oil Association at Dallas last Friday, traced factors leading to the fixing of present proration rules and discussed probable effects of present litigation.

Mr. Blalock termed the Humble case, soon to be heard, as extremely important to producers in the field since he believed it would have a wide effect on property rights there. He founded this on Humble's contention that surface acreage should be included in fixing well quotas, saying it sought to do away with the rule of capture. He strongly endorsed the capture theory as opposed to the oil-in-place theory.

ARKANSAS

THE ARKANSAS OIL AND GAS COMMISSION will hold its regular bimonthly state-wide hearing on February 16. Evidence will be heard concerning waste, or reasonably imminent waste, of oil or gas in all of the state's flush fields. In addition the commission will hear the application of the Lion Oil Refining Co. filed January 26, asking dissolution of the order of January 22 fixing daily allowables for wells producing from the flush fields of the state.

LOUISIANA

THE INCREASE IN GAS PRODUCTION from 44,000,000 to 80,000,000 cu. ft. daily, granted the Cotton Valley field for February by the Department of Conservation, is a temporary measure to provide gas systems, overtaxed by recent severe cold in the South, to meet the emergency of greatly augmented gas consumption. It is expected that the gas withdrawals will decrease after this condition has been met. In mid-February, the Louisiana-Nevada Transit Co. will begin withdrawals of gas from Cotton Valley for its new line serving Hope, Ark., and surrounding territory.

KANSAS

REGULATING KANSAS OIL PRODUCTION to prevent waste will "double or triple the amount of this valuable natural resource which Kansas will ultimately recover and produce," Arnold Jones, member of the Kansas Corporation Commission, said today.

Substituting for Gov. Payne Ratner in a regular monthly radio speech, Mr. Jones reviewed Kansas' position as an oil-producing state in opposing proposed federal control of the oil industry. Governor Ratner is in Washington to appear before the Cole committee investigating production and regulation of this resource.

Oil wells are as "individualistic and as temperamental as race horses," Mr. Jones asserted, and "we find it exceedingly difficult to make the rules and regulations of our commission fit all conditions of the 20,000 wells in our state.

"But stop and think how many times this problem will be multiplied if an omnipotent commissioner in Washington starts experimenting with rules to which the 350,000 wells in the United States are expected to conform.

"Because of the individualistic nature of oil wells and oil pools, it is important that such governmental regulation as is unavoidable be as close to the actual operations as possible," the commissioner said.

Discussing coordinated action of Mid-Continent states through the interstate oil compact, Mr. Jones said they are "reaping all benefits of united action without the evils of crushing and dictatorial federal control."

CALIFORNIA

EXPIRATION OF THE TRADE TREATY with Japan on January 26 passed without incident as far as California shipments to Japan are concerned and this movement of crude and refined oil to Japanese buyers has extended over into February with five Japanese tankers either loading, or in California ports on February 1. No official action was taken upon expiration of the trade treaty. It was allowed to expire without comment by the State Department. It is significant to note, however, that action can now be taken to either impose an embargo or put into effect high import taxes without notice. It is the general belief in California that the situation will remain in status quo indefinitely, or until another incident arises, in which case action might be taken.

THE CALIFORNIA OIL INDUSTRY, especially those operators producing heavy crude oil, was in a turmoil this week due to the crude-oil price reduction posted by Standard Oil Co. and which became effective February 1. Part of the animosity is probably due to strained relations extending over from the bitter battle over the Atkinson oil-control bill that was defeated by a large majority last November. The Oil Producers Agency of California, headed by L. L. Aubert and Rush M. Blodgett, and San Joaquin Valley Oil Producers Association, headed by Dana Hogan, have both come out with bitter denunciations of the price cut, and charge that the weak market in fuel oil and diesel oil is due to excess production of refinable crude and not heavy crude, the storage of which has been reduced for several months.

ENACTMENT OF THE SEVERANCE TAX on oil proposed by Governor Olson would shut down the major portion of stripper wells in California, Sen. J. I. Wagy of Bakersfield says.

Further opposition to the petroleum tax was voiced by Assemblyman Rodney Turner, of Delano. He said:

"We want to make opportunities for business in California. We can't plague business with new taxes at every session of the legislature. Actually what we need is some economy and efficiency in government."

NEW MEXICO

PRORATION AUTHORITIES in New Mexico established the production allowable in that state during February at 113,000 bbl. per day. This is 12,700 bbl. per day more than the United States Bureau of Mines' estimate of demand for that state.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Time for Offensive

The most effective weapon of the oil industry against the threatening agitation for federal control as embodied in the pending Cole bill is the fact that the mail of congressmen and senators rarely contains any letters of complaint from the public at large.

In this connection, governmental representatives of other departments investigating economic conditions which have a bearing on the standard of living of oil-industry employes and prices charged for petroleum products, often express amazement at conditions as they find them. Some have said that the industry is overlooking an opportunity and duty in not making these developments better known to the general public.

These conditions are so well known in the industry that their importance in the general economic trend of the country is not fully appreciated.

For instance, as one governmental investigator recently has pointed out, employment conditions in the oil industry continue far ahead of the average for the country as a whole, despite the substantial upturn in general business over the past 6 months.

The latest government reports show that the average weekly earnings in the producing branch of the oil industry are $34.33 and in the refining branch $34.38. This is nearly 40 per cent greater than the average earnings in industry generally which are $24.69.

Petroleum refining still ranks ahead of all other major manufacturing industries in the hourly and weekly earnings of its employes.

In regard to prices received for products, the wholesale index for petroleum products is 54 against an average of 79 for all commodities.

Taking those products which enter directly into the cost of living, we find food indexed at 73.3; shoes, 105.7; clothing, 83.2; fuel and lighting, 73.9; household furnishings, 87.8. Petroleum continues to be, by far, the cheapest product purchased by the average family.

These facts and others which could be added are the most effective answer to the current Cole bill and all other attacks directed against the oil business.

This week governmental representatives of the oil states are presenting their case against the Cole bill at Washington. Later operators themselves will continue their testimony, adding to many volumes of data collected by federal investigators in recent years.

The position of the industry in this investigation as in the past is that of a defendant. It is charged with something which it is endeavoring to disprove, handicapped by not being able to present its full case.

After the operators are through, the representatives of the industry's million employes should go before the committee at Washington, not as defendants but as people seeking to protect their rights. They should ask whether under federal control the Government will protect them in their present enviable position as regards wages and salaries, or whether governmental policy dictated by political expediency will not result in their incomes being reduced to the levels of general industry.

Then the representatives of 130,000,000 people—practically all of whom are consumers of one or more petroleum products with an average of 10 bbl. per capita—could move in.

With plenty of evidence as to the prices charged for products of industries and agriculture with whose operations the Government has tampered, they could ask for guarantees that this new meddling would not shortly end this trend toward lower prices for petroleum products, the 80-year accomplishment of a free enterprise.

A defensive policy has never finally settled anything in Washington. Why not try an offensive?

Arkansas Proration Formula Will Be Tested in Court

By GEORGE WEBER

EL DORADO, Ark., Feb. 5.—The protracted disagreement regarding an allocation formula applied in Arkansas' Schuler field moved a step nearer solution last week.

The effort which Lion Oil Refining Co. has waged for several months to gain adoption of an acre-foot-pound basis for the formula in the gas-drive field culminated in a complaint filed by that company in the Union Chancery Court on January 25. Settlement of this matter in the courts within the next few weeks will have an important bearing on the enforcement of conservation in Arkansas.

Court Test

The Arkansas Oil and Gas Commission, in computing allowable well production in the Jones-sand reservoir of the Schuler field, employs a formula which involves acreage and bottom-hole pressure. In preparation of its field order each month, the total field allowable is divided by the sum of the products of bottom-hole pressure and acreage for each well in the field. This factor, in barrels per acre-pound, is applied to the acre-pound product for each individual well in determining the daily allowable of that particular well.

For several months, Lion Oil Refining Co. and Phillips Petroleum Co., who produce wells in the thick section of the Jones sand, have endeavored to obtain adoption of a formula which considers the thickness of the producing sand in addition to the pressure and acreage. The proposed formula has not been adopted, since, on the basis of commission engineers' findings, the inclusion of sand thickness involves a factor which cannot be determined with sufficient accuracy in view of varying sand characteristics throughout the field. It is contended by the commission that the present formula, which allows production in direct proportion to both acreage and bottom-hole pressure, constitutes the most equitable basis on which per-well allocations can be practically determined.

Submission of the problem to court will bring the long-expected decision regarding the matter. Lion's action comprised two distinct steps. In filing suit, the formula, as it applies solely to the Lion Mayfield lease in Schuler, is attacked. This lease consists of 102.53 acres, under which the average thickness of the Jones sand is estimated at 70 ft. The five wells drilled on that lease are held in the complaint to produce from a thicker section of the sand than any other wells in the field. On the basis of the current formula, their allowable production with respect to that of other wells in the field is held to be less than the ratio of oil in place under the lease to that in place under the remainder of the field. The contention is that other wells producing from thinner sections of the sand are being permitted to produce more oil than their fair share of the daily pool allowable.

The complaint is directed to the order of the commission entered December 20, 1939. It will be amended before trial to attack the order which the commission will issue following its hearing of February 16. In this respect a second attack by Lion Oil Refining Co. was made a day following the filing of the above complaint.

An application was filed with the commission, asking dissolution of the order entered January 22, 1940, fixing the daily allowables for flush fields beginning February 1. The petition alleges that order to be void because, among other reasons, it was issued without notice or hearing and was not adopted by members of the commission.

This second step is seen as a matter of procedure preparatory to the order's test in court. The commission has, in the past several months, met bimonthly, fixing after each such hearing the allowable in flush fields for the two subsequent months. The second monthly order following each hearing adheres to the fixed allowable total, but makes adjustments in per well allowables to care for new wells. At the commission's hearing on this matter, held January 30, it was suggested that intervening orders hereafter be based on hearings, or be more fully provided for in previous hearings, so that their validity would not be questioned. Should a court consider an order, under attack as in the present case, invalid on any technicality, the suit would be dismissed. Thus, in order to have a court test, it is in the interest of all parties wishing settlement of the question, to assure that any such ruling be unquestionably valid.

Due to the fact that the chairman, director and possible several members of the commission will be in Washington for a number of days to attend the Cole committee hearings, action on the orders is deferred until the regular state-wide hearing on February 16. At that time the order for March will be entered, and it is expected Lion attorneys will amend the complaint to include that order. Within 20 days of filing of the complaint, the commission must present an answer, and both parties will await announcement of the suit on the Chancery Court's calendar. Meanwhile, the order for February, as entered by the commission, will remain in effect.

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Ludlow Directs Lubrication Committee Program

R. A. Ludlow has resigned as manager of the lubrication department of the Richfield Oil Corp. to become director of the recently inaugurated program of the petroleum industry directed toward a closer cooperation of that industry and the engineering and service departments of the automotive industry, according to an announcement by W. H. Correa, chairman of the lubrication committee of the American Petroleum Institute.

R. A. LUDLOW

Mr. Correa said the new clearing house has taken quarters with the American Petroleum Institute at 30 Rockefeller Plaza, New York, and many factors in the petroleum industry have forwarded subscriptions to the new movement, including Socony-Vacuum Oil Co., Inc.; Standard Oil Co. (Indiana); Gulf Oil Corp.; Quaker State Oil Refining Corp.; Mid-Continent Petroleum Corp.; Cities Service Oil Co.; Pure Oil Co.; American Oil Co.; Ohio Oil Co.; Standard Oil Co. (Kentucky); Barnsdall Refining Corp.; Atlantic Refining Co.; Sinclair Refining Co.

"Each day sees additional companies backing this program and sending in their checks," Mr. Correa said. "Ultimately we expect to have every petroleum marketer, refiner and compounder in the country back of this movement."

Mr. Ludlow's experience in the petroleum industry goes back to 1913 when he joined Indian Refining Co. at Cincinnati. Since he has been almost exclusively in the lubrication end. From 1930 Mr. Ludlow has been with Richfield Oil Corp. in New York.

Royalty on Hot Oil in Texas Supreme Court

AUSTIN, Tex.—Whether hot oil produced in East Texas should be valued at the full posted price or that obtained by the seller in determining royalty to be paid was the question raised in litigation which the Supreme Court decided Wednesday to review.

The issue was raised in the appeal of Artiz Oil Co. v. Adolph A. Geyer and others from Rusk County, in which Geyer and others, owners of 193/312 interest on a one-eighth royalty under a 16/18-acre tract sued for royalty on alleged production of 303,899 bbl. of oil in excess of the Railroad Commission allowable from December 1933 through April 1935.

Trial-court judgment was awarded upon the basis of a jury finding of a market value of 50 cents per barrel for the excess oil while the Court of Civil Appeals overruled the jury finding and applied the posted price of $1 a barrel in determining damages.

Madison Case Argued in U. S. Supreme Court

WASHINGTON, D. C., Feb. 6.—The Department of Justice asked the Supreme Court Monday to sustain the conviction at Madison, Wis., of 12 major oil companies and five individuals on a charge of conspiring to raise gasoline prices.

John Henry Lewin, special assistant to the attorney general, argued that the antitrust charges should be sustained even though the prices fixed were reasonable. This contention was advanced in response to questions by the justices. The Supreme Court has interpreted the 1890 Sherman Act as forbidding only unreasonable restraint of trade.

Justice Frank Murphy left the chamber when the argument started, indicating he would not participate in the decision. As attorney general he was active in antitrust prosecutions.

Thurman Arnold, assistant attorney general, and William J. Donovan, counsel for the oil companies, participated in the argument.

Further Reduction in Rates To Be Made in El Paso

AUSTIN, Tex.—Chairman Lon A. Smith of the Texas Railroad Commission announced the commission had agreed to an arrangement whereby Texas Cities Gas Co. would further reduce a rate to effect a saving of $100,000 a year to El Paso consumers.

A test, Mr. Smith said, showed lower gas rates effective since July would fall $5,500 short of the $100,000-a-year reduction.

The commissioner stated that the company and city thereafter agreed that a reduction of 8 cents per 1,000 cu. ft. in the second 500-cu. ft. bracket would effect the full saving, an arrangement which met the approval of the commission.

THE MARKETS*

CRUDE OIL: An average of 3,511,953 bbl. per day in daily production in the United States last week brought production down from 129,355 bbl. per day from the total of the previous week. Texas made the biggest reduction, 127,997 bbl. per day. Illinois reached a new production peak with a total of 373,300 bbl. per day as an average for the week. Standard Oil Co. of California reduced its posted prices from 4 to 15 cents per barrel in all California fields in which it purchases crude oil, the low-gravity or fuel-oil crudes bearing the brunt of the decrease.

REFINERY: Evil effects of top-heavy gasoline stocks are becoming more clear as price weakness appears in widening areas. Bright stocks and neutrals are increasingly soft, especially in eastern market. Although winter weather was not so pronounced in the past week, furnace oils and kerosene are firm. Wax steadier. Decline of natural gasoline seems to have halted.

TANK-WAGON AND POSTED DEALER: Advance of 2 cents in kerosene at points in Georgia only changes reported.

FINANCIAL: The oils resumed their decline in the dullest week in 8 months. They moved in an unusually narrow range, with inconsequential margins between the highs and the lows. Average of 30 representative stocks for week ended February 3: High, 26.23; low, 25.55; close, 25.87. Week ended January 27: High, 26.37; low, 25.64; close, 26.01.

*Detailed information in market section.

California Crude Price Cut Laid to Fuel-Oil Weakness

By L. P. STOCKMAN

LOS ANGELES, Calif., Feb. 5.—Reflecting a substantial weakening in fuel-oil prices at the beginning of 1940 and a downward trend since the latter part of 1937 in both fuel-oil and diesel prices, California crude-oil prices were reduced by Standard Oil Co. February 1, from 4 to 15 cents per barrel. Several fields have been changed and additional schedules issued for fields discovered since 1936, but this is the first covering all fields in the state.

The cut ranges from 4 cents per barrel for the higher gravity to 15 cents for the low-gravity crudes which produce the largest quantity of fuel-oil and refinery residuum. Heavy crude in most San Joaquin Basin fields was cut 10 cents which brings crudes ranging from 14° to 18° down from 70 cents to 60 cents, a cut of more than 14 per cent. Standard's announcement indicated that, "This reduction is made because of a substantial weakening in fuel-oil prices at the beginning of the year, and the new crude prices reflect this to the extent of the fuel-oil content of the various gravities of crude."

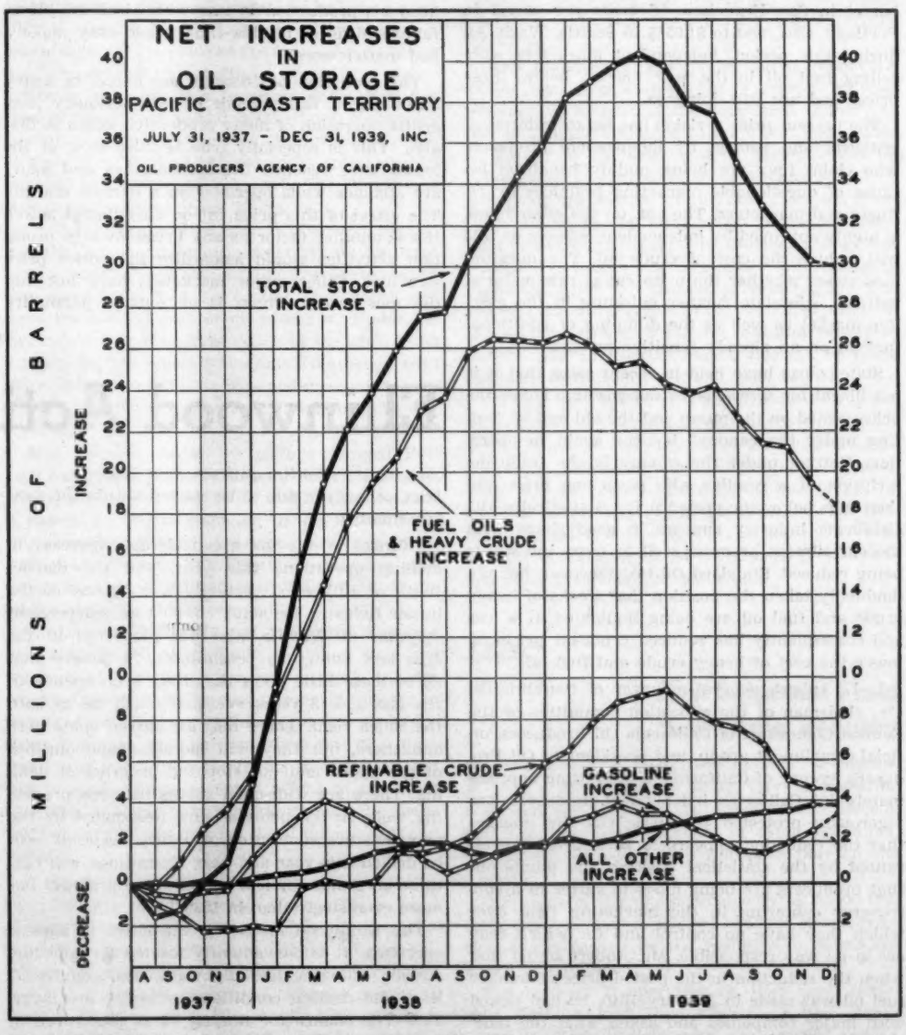
The reduction is not due to any outside influence and expiration of the Japanese trade treaty did not have any significance as far as the new prices are concerned. Fuel-oil demand has been below expectations for 2 years. The loose crude in the spot market has had a tendency to weaken the fuel market as smaller refiners who do not make a practice of carrying fuel-oil stocks have been obliged to reduce prices to move current fuel-oil production. This precipitated a cut in fuel-oil prices at the start of the year. There is a general feeling that the low prices for fuel oil will be here for a while in which event there can be no reason for encouragement as far as crude-oil prices are concerned.

The picture appears to be somewhat complicated because this cut in heavy crude-oil prices was made in the face of a reduction in stocks of 2,979,086 bbl. of heavy unrefinable crude oil during 1939 and a reduction of 4,071,447 bbl. of fuel oil and 868,638 bbl. in stocks of diesel and gas oil. The reason for the decline in fuel-oil prices during the last 2 years was not an overproduction of heavy unrefinable crude oil but rather the ability of some independent refiners to purchase their refinable crude-oil requirements below the posted price and thus be in a position to dump fuel oil in the spot market below standardized quotations. Because of this condition, producers of heavy unrefinable crude oil, especially those in San Joaquin Basin, have been the unfortunate victims of a situation that has resulted from a production of refinery residuum produced from surplus production of refining crude in Los Angeles Basin. Whenever there is a surplus of refinable crude oil in the spot market, refined-oil prices eventually weaken and finally break down. This is particularly true where refiners are able to purchase crude-oil requirements below market price, as has been the case for several months. Recent cancellation of crude-oil purchase contracts by one marketer has been a contributing factor in the present surplus of refining crude oil in the spot market.

The relatively small price cut in light refinable crude oil and especially in those fields yielding high-gravity oil indicates that Standard Oil Co. hopes to maintain the existing price structure for gasoline and other refined products. There has been a growing tendency on the part of some independent refiners to displace pumps and accounts by the granting of larger differentials to resellers and the posting of retail gasoline prices substantially below prevailing quotations and, while this has not yet become a factor of great importance, it shows the trend of the market. This practice is made possible in part by promiscuous purchases of crude oil, in some cases below posted prices, and by the installation of more efficient refining facilities. This competitive condition in the gasoline market is a normal condition and is not to be denied as the market can absorb a certain amount without breaking. Fuel-oil prices, on the other hand, cannot stand much price

REDUCTION NOT MET

Los Angeles, Feb. 6—No other company had met the crude price reduction by Standard of California up to Tuesday noon.


NET INCREASES IN OIL STORAGE
PACIFIC COAST TERRITORY
JULY 31, 1937 - DEC 31, 1939, INC
OIL PRODUCERS AGENCY OF CALIFORNIA
MILLIONS OF BARRELS
INCREASE
DECREASE
TOTAL STOCK INCREASE
FUEL OILS & HEAVY CRUDE INCREASE
REFINABLE CRUDE INCREASE
GASOLINE INCREASE
ALL OTHER INCREASE
A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1937
1938
1939

Note: All data from U. S. Bureau of Mines, except 1939, which have been estimated from weekly figures of the U. S. Bureau of Mines and American Petroleum Institute. Compiled and drawn by H. L. Scarborough

slashing without affecting the crude-oil price structure because the margin is too limited to permit much variation. Under a normal operating condition each refined product should bear a proportionate share of the cost of crude oil, natural gasoline, and manufacturing and distribution costs plus a fair profit. Fuel oil has been decidedly out of line for 2 years and has failed to pack its share of the burden with the result that the net back per barrel of crude oil has been less.

Fuel-oil prices in California have dropped 35 cents per barrel in a little over 2 years, indicating a general weakening since late in 1937 and the precipitation of a competitive condition that required a price revision early in 1940. During this period fuel oil has declined from $1.10 per barrel at Los Angeles Harbor to its present level of 75 cents per barrel. This represents a reduction in price of 31.82 per cent in slightly over 2 years. The downward trend started December 23, 1937, when Standard, due to competitive conditions, cut fuel oil 10 cents per barrel at Los Angeles and San Francisco, which reduced the price at that time to $1 at the former point and $1.05 at the latter point. Again reflecting competitive conditions and also a decline in consumption, Standard Oil Co. made a 10-cent cut in fuel oil May 10, 1938, which brought the price down to 90 cents per barrel in Los Angeles and 95 cents per barrel in San Francisco. On January 1, 1940, another price cut was necessary and the 15 cents slashed off fuel-oil prices at that time brought quotations down to 75 cents per barrel in Los Angeles, 80 cents per barrel in San Francisco, 95 cents per barrel in Portland, Ore., and to $1.05½ in Seattle, Wash. All during this period, independent marketers were selling fuel oil in the spot market below these prices and are still doing so.

The present price revision has led to widespread criticism and protest by independent producers who claim they are being unduly penalized because of questionable marketing practices by refiners and marketers. The cut, on the other hand, is highly approved by independent refiners as this will reduce the cost of crude oil. The question now arises whether the price cut of raw material will not stimulate further chiseling in the gasoline market as well as the dumping of additional fuel oil on an already sensitive market.

State courts have held in recent cases that it is not illegal for a reseller to sell gasoline below the price posted on the pump and the old evil of "cutting under the canopy" is once again in operation. Cutting under the canopy is the trade description of a reseller who posts one price and then sells below the posted price. Statistically, the California industry appears in good shape with the curtailment program well in hand and stocks being reduced. Standard Oil Co., however, has undoubtedly taken the position that stocks of heavy crude and fuel oil are being liquidated at a loss and consequently has reduced crude-oil prices to lower the cost of heavy crude and fuel oil.

L. L. Aubert, general manager of Bankline Oil Co., chairman of the allocation committee of the Central Committee of California Oil Producers, official curtailment group, and president of Oil Producers Agency of California, representing approximately 400 California independent producers, has vigorously protested the price cut. He charges that the reduction appears to be entirely unwarranted by the statistical position and points out that producers are being made to suffer in a controversy centering in the marketing field over which they have no control and for which they are in no way responsible. Mr. Aubert stated that when the reduction in the posted price of bunker fuel oil was made in January 1940, he had talked with major companies and asked what the independent producers could do to alleviate the situation and had suggested they might consider storing part of their oil. Standard's new cut, he said, came as a surprise to him as he had expected further canvass of the situation with the majors before any reduction was made.

Preliminary estimates indicate that under the new schedule of Standard Oil Co., income of producing companies will be cut by about $20,000,000 per year of which approximately $10,000,000 will be borne by independent operators and landowners. Mr. Aubert declared this $20,000,000 annual burden is even more onerous in view of the fact that voluntary conservation efforts have reduced inventories in every month since June 1939, with the result that substantial headway has been made in cutting excessive inventories accumulated in 1937 and 1938 as well as during the early months of 1939. He also said that immediately following the cut in posted prices for bunker fuel, independent producers throughout the state gave assurance of willingness to assist stabilization efforts in any way possible so the crude-oil price structure would not be affected. The sincerity of these assurances was indicated in the reduction in allotment, effective February 1, 1940, bringing top wells down to 185 bbl. daily and the state total allowable down to 594,000 bbl. per day from the January 1940 allowable of 599,000 bbl. per day. Mr. Aubert also said that most independent producers cannot understand the reason for reduced prices for crude oil when allowables and production are constantly being reduced in order that supply and demand may be kept in balance. In spite of the price cut, each producer was urged to keep his production in line with his allowable as failure to do so at this time would only make a bad matter worse.

The reduction of 10 cents per barrel in heavy San Joaquin Valley crude oil will seriously jeopardize operation of many productive leases in that area. This is especially true because most of the leases have reached the settled stage and many are stripper wells operated on a narrow margin. The effect of this price cut on curtailment activities is another factor as any breakdown in proration activities would jeopardize the entire price structure. Other major marketers have not met the new prices. There is an outside possibility that the cut may be rescinded, although it appears probable other marketers will eventually meet the Standard's new schedule.

Dana Hogan, president of the San Joaquin Valley Oil Producers Association, and president of the Hogan Petroleum Co., said:

"The cut in crude-oil prices has astounded and confused the independent oil producers, especially the heavy-oil producers in the San Joaquin Valley where the cut wipes out any possible profit they may have been making. The margin of profit for the producer, particularly of heavy oil, has been growing less each month due to decreasing allowable production with its attendant decreasing gross income, increases in fixed charges due to higher wages, costlier materials and crushing taxes. Now comes this crushing blow which defies the law of supply and demand by lowering the price of a commodity in the face of an increasing demand and a daily diminishing of inventories for the past 7 months. The only excuse I can think of for the lowering of the price of heavy crude and fuel oil is the Venezuela trade agreement. However, it seems strange that the effect, if this can be the cause of our California price cut, was so immediate."

Canadian Gasoline Sales Increased According to Recent Report

OTTAWA, Ont.—Retail gasoline sales in Canada for the first 10 months of 1939 amounted to 684,212,000 gal. against 650,530,000 gal. in the same period of 1938. All nine provinces showed increases for the 10-month period.

For October, sales totaled 82,708,000 gal. against 77,023,000 gal. in the same month of 1938, with increases recorded in all provinces except Alberta.

Imports of gasoline lighter than .8236 gravity in November totaled 8,055,635 gal. valued at $818,770 against 7,072,215 gal. valued at $662,105 in October. Imports of natural casinghead, compression or absorption gasoline amounted to 5,221,570 gal. valued at $244,086 in October and 4,368,180 gal. valued at $324,736 in November.

Exports of gasoline and naphtha in October were 772,172 gal. at $72,160, dropping to 592,900 gal. at $58,117 in November.

Ellinwood Activity Planned

(Continued from Page 19)

trict, others are due to be started within the next few months.

"Kansas is due for a considerable increase in drilling operations this year, and the district south of Ellinwood certainly will be one of the busier fields in the state," opined an independent operator of Wichita who has pioneered in the area and knows its possibilities. "I believe that all of these little pools that have been opened in the last 2 or 3 years eventually will tie in with the Silica field. There may be barren spots here and there, but they will merely shape outlines of the pools, and not stop the progress of drilling. There are wide-open spaces between producing wells in the pools as now designated by the nomenclature committee, and they certainly will be drilled this year and next. Operations will continue on a more or less conservative program but more extensively than in 1939."

The Ellinwood district is attractive to Kansas operators. It is conveniently located for pipe-line outlets, railways, and highways. The country is level and drilling conditions generally are favorable. The chance for finding oil is good, even in outpost tests, and the oil is of uniformly high gravity, usually around 40° to 43°. Pay sands are found at around 3,200-3,350 ft. Initial production ranges from 100 bbl. upward, with potentials of 2,000 bbl., 3,000 bbl., and even 4,000 bbl. not being unusual. Both rotary and cable tools are used in this area.

The biggest problem facing Silica-Ellinwood operators is that of water disposal. The majority of wells produce water along with the oil, and it has to be disposed of. There are two methods of doing this. The solar system of water disposal is favored by some operators. That is the simpler but slower way, the water being pumped into big earthen pits with the sun doing the rest of the work. The other method is through water-disposal wells, a more costly but faster method of disposal. Several disposal wells have been drilled in the Silica field.

Principal operators and leaseholders include Stanolind Oil & Gas Co., Gulf Oil Corp., Indian Territory Illuminating Oil Co., Lario Oil & Gas Co., Magnolia Petroleum Co., Crown Petroleum Co., C. E. Ash, Frank Hollow, Broderick & Gordon, Virginia Drilling Co., Shell Oil Co., Inc., Texas Co., A. G. Kaiser, Cities Service Oil Co., Continental Oil Co., Noble Drilling Co., C. B. Davis, Simon Lebow, H. T. Ritchie, D. J. Wilson, Sinclair Prairie Oil Co., and others.

International

Mexico . .

No Arbitration, Says President Cardenas

PRESIDENT LAZARO CARDENAS, of Mexico, reiterated his government's intention to pay the expropriated oil companies on the basis fixed by legal proceedings now pending before Mexican courts. The restatement of a previously announced policy was made last week by the president to foreign correspondents in Mexico City.

Since the companies have declined invitations to appoint evaluation representatives, the appraisal is being carried out entirely by Mexican appointees of the court exercising jurisdiction. President Cardenas said the court's evaluation would be final and would not be subject to review or revision by the executive department. He added that the circumstances eliminated the possibility of negotiation on the court's evaluation.

The relationship between the judicial and executive functions was pointed out by President Cardenas to emphasize his contention that the controversy is one that must be solved directly between the Mexican Government and the companies. He said he could see no reason why the question should be submitted to international arbitration.

There has been no recent change in the physical condition of Mexico's oil business. Daily production continues to range only a little more than 30,000 bbl. and exports are severely restricted by the Allied blockade and inability to arrange tanker tonnage under acceptable terms. With production restricted to its present levels, the domestic market is under constant pressure.

Some of the small companies excluded from the expropriation report that it is necessary to accept approximately 25 cents per barrel for low-gravity crude to meet the competition from the government petroleum agency in the industrial-fuel-oil market.

Press reports in Mexico City said Petroleos Mexicanos, the government oil administration, would lend every cooperation to the Japanese-controlled Veracruzana Petroleum Co. in its plans to intensify exploration of new fields south of the Panuco River, near Tampico.

The reports also said the company has projected extensive drilling operations in the Isthmus of Tehuantepec, in Tabasco and Cheiapas states, and in Vera Cruz State's rich Poza Rica region.

Capital for these operations, as well as for large purchases of Mexican petroleum, would come from the Japanese-owned Laguna Corp., a branch of the Misui interests, in Mexico City.

Rumania . .

Competition Between Allies and Germany

PURCHASES of Rumanian oil by Italy, which recently has been absorbing about 20 per cent of Rumania's exports, were reported in European dispatches last week to have been suspended pending a new arrangement regarding a ratio between cash payments and settlement in goods.

Competition between the Allies and Germany over Rumanian oil has pushed up prices too far for other countries to meet, even under a clearing system. It has created a situation that has forced the Rumanian Government to adopt strong measures to defend its neutrality.

The current price of Rumanian oil is $44.56 a ton (nearly $6 per barrel). This price compares with about $17 (or $2.25 per barrel) for Rumanian oil at the beginning of the war. The rise represents what the Germans are willing to pay to get oil in this market and what Allied interests are willing to pay to get oil in this market and cut off German supplies.

There is now a lull in the price rise due to inactivity on the military front, the freezing of the Danube and Germany's inability to transport even as much as she can purchase.

When the trade treaty giving the Reich 45 per cent of the petroleum exports was signed in Bucharest last March it was hotly resented by the Rumanians as a surrender to German pressure. Now the resentment extends to the British as well, who are exerting pressure to prevent fulfillment of the Reich contract.

The Rumanian Oil Commission was established recently to control the production and distribution of petroleum, the chief source of national wealth. The government wants to have the industry in its own hands should the country become engaged in war. It wants to be able to fulfill its contracts with Germany, but mostly it wants to be able to prevent the fight over oil bringing Rumania into the conflict.

Rumanian production is almost entirely in foreign hands. British and Netherland companies control 39.8 per cent of the production, French 16.6 per cent, Belgian 14.5 per cent, American 12.5 per cent and Italian 5.5 per cent. The Rumanians themselves own less than 10 per cent.

Until the war started, the British and French had the largest capital investment in oil but used only a minimum of the output. The Germans, on the other hand, had no capital investment and were the chief buyers of oil products. Under the new agreement they have acquired the controlling interest in two small Rumanian companies with three refineries, 433 tank cars and a combined output of about 500 tons a day, equal to approximately 3,750 bbl.

After the war started the picture changed. Foreign companies began buying all the oil available, shipping out what they could and storing the rest. A special agent was installed in the British legation to coordinate and supervise production in behalf of the British. The Rumanian contract with Germany can be fulfilled only if the bulk of the oil is supplied by these companies.

The oil companies do not yet know how the new control will affect them, but they have one trump card to play in their own interest. Oil represents the major Rumanian purchasing power in free markets. It is impossible to get free exchange from Rumania and the companies are in a position to cut down their shipments to countries that pay in cash. Rumania cannot afford to sell more than she is obliged to in a market where the goods sent in return are of deteriorating quality and variety.

A dispatch to the New York Times from Bucharest, Rumania, says Professor Gheron Netta, head of the Oil Commission, has established an agreement with all the petroleum companies concerning the maintenance of oil supply for the country and the army. All companies without regard to their standing are pledged to supply a quota, which is established on the basis of the refining capacity of each company. This agreement was signed by all companies, foreign and Rumanian, so that this question, which was one of the most important to the internal situation, is now arranged. Statistics on Rumanian exports during 1939, just published, revealed that Germany bought 30.8 per cent. In 1938 it purchased only 22.2 per cent of Rumania's exports. Italy bought 15.2 per cent in 1939 and 12.5 per cent in 1938; Britain 15.2 per cent in 1939 and 12.8 per cent in 1938, and France 8.6 per cent and 6.4 per cent, respectively.

Germany . .

Reich Requisitions Polish Petroleum

SEVERAL moves were reported last week aimed at regimenting petroleum supplies available to Germany. Potentially the most important move was the establishment of nine transfer stations on the German-Russian frontier in what was formerly Poland. The transfer stations were established for the loading and unloading of freight cars. This is necessary because of the wide-gage railroad tracks common to Soviet Russia which are 3½-in. wider than the standard gage of German railroads.

Since invading the eastern section of Poland the Soviet has been engaged in widening railroad trackage in its part of the conquered country so that shipments from the interior of Russia could be moved to the new western border. This involved widening of 160 miles of trackage.

Only in one section of the newly acquired territory did the Soviet fail to widen the railway gage. That was through the section of former Poland that connects Germany via Przemysl with Cernauti, Rumania. Here by mutual agreement, the line was left standard gage so that Germany could obtain oil from Rumania without reloading. Oil from Galicia, now in Russian hands, also can be made available to Germany without reloading.

On February 1, Germany requisitioned all petroleum in German-occupied Poland. All oil supplies are to be put at the disposal of a new general oil monopoly. All producing and refining organizations will be placed under the authority of the customs administration of occupied Poland. Germany issued a decree last week seizing a small amount of surplus oil in the hands of railroads operating in former Czechoslovakia.

Iraq . .

First Shipment From New Haifa Refinery

FIRST products from Consolidated Refineries, Ltd.'s new plant at Haifa Bay in Palestine were reported lifted in the latter part of December. The first cargo consisted of about 55,000 bbl. of fuel oil consigned to a European port on the Atlantic.

Only part of the planned capacity of 40,000 bbl. daily has been commissioned because of construction delays caused by the inability to obtain delivery of equipment.

The refinery is operating on Iraq crude delivered through Iraq Pipe Line Co.'s line which links the Kirkuk field with the eastern end of the Mediterranean.

Unloading pipe from barges at Filston, La., on the Mississippi River, for construction of 94 miles of line for Louisiana-Nevada Transit Co.'s system for delivering gas from Cotton Valley, La., to Hope and Okay, Ark. All the pipe for this project was barged from the mills in Ohio. Barge shipments were made to Camden, Ark., on the Ouachita River, as well as Filston. J. R. Jones is the pipe-line contractor

Pipe-Line Activity

Tentative Approval Reported For Line to Mesabi

WASHINGTON, D. C.—Allen V. Junkin, attorney, St. Paul, Minn., says Kansas Pipe Line & Gas Co. has received tentative approval for half the R.F.C. loan to construct a gas line from Hugoton and the Panhandle to the Mesabi range in Minnesota. Final endorsement, he said, awaited submission of detailed plans for financing the whole project.

Southeastern Pipe Line Co. Answers Railroad Attack

The Southeastern Pipe Line Co., which is constructing a gasoline pipe line from Port St. Joe, Fla., through Georgia to the Tennessee line near Chattanooga, has resorted to newspaper advertising to combat the opposition of the railroads to the completion of the line.

The pipe-line company says the gasoline pipe line "is a modern step that has proved to be uniformly successful wherever tried. Twenty-five years of gasoline transportation have demonstrated that pipe lines are the safest means known to science. During the entire history of the operation of the 7,000 miles of gasoline pipe lines in the United States, there has never been one casualty."

Replying to another argument, it says: "It was said of the first labor-saving machines that they would throw thousands of people out of work. Time and experience have shown they created more work. Any progressive step makes more work for more people. The gasoline industry owes it to the public to take advantage of the best plan for transporting its product. The consuming public deserves every possible price concession that can come through the operation of a safe and economic, as well as progressive system of transportation. This pipe line is not being constructed at the expense of the taxpayers, and it will bring through the taxes it pays new revenue to the state and each county and district in which it operates. Terminals of the new line will be located at Bainbridge, Albany, Americus, Macon, Griffin, Atlanta, Rome, and Lookout Mountain. In all these places, as well as at other points on the line, people will be given permanent employment when it is in full operation."

Pipe-Line-Investigation Report to Commission

WASHINGTON, D. C.—A favorable decision by the Interstate Commerce Commission in its investigation of pipe-line rates was predicted as the deadline for filing exceptions passed without opposition briefs. The report was submitted in December by Commissioner Clyde B. Aitchison and Examiner J. Paul Kelly.

The report now goes to the commission for decision. Messrs. Aitchison and Kelly found that pipe lines are in effect plant facilities of oil companies and asserted there was "no assurance" a flat reduction of rates would result in benefit to the general public. They concluded it was neither "desirable nor practicable" for the commission to fix minimum tenders applicable to all the companies and recommended that the proceedings be discontinued.

Louisiana-Nevada Transit Line Near Completion

SHREVEPORT, La.—The Louisiana-Nevada Transit Co.'s 70-mile, 8-in. welded gas line from the Cotton Valley field of Webster Parish, Louisiana, to Hope, Ark., is nearing completion. Gas distribution to industrial and domestic consumption points in the vicinity of Hope is expected to begin in mid-February.

Action on Line to Spokane Postponed for Present

SPOKANE, Wash.—Directors of Inland Empire Refineries have postponed until their next meeting final action on the construction of a $2,500,000 pipe-line system from the Cut Bank (Montana) field to Spokane.

Vice Pres. Henry D. Moyle said the directors expressed a desire for more engineering data and information in connection with the 330-mile line.

National Transit Line To Move Illinois Oil

OIL CITY, Pa., Feb. 6.—D. M. Sachs, president of National Transit Co., reported that one of the trunk pipe lines of the system, taken out of service last year, soon would be used to move Illinois oil eastward.

Natural Gasoline

Shell Revamps Plant in Healdton, Okla., Field

Shell Oil Co., Inc., began revamping the Barco gasoline plant at Healdton, in Carter County, Oklahoma. The work is under the supervision of Shade Young. Construction of vacuum lines will be done by contract. The work being undertaken will cost about $125,000.

W. A. Baden and Paul R. Smith Join Anchor Petroleum Co.

W. A. Baden, butane sales manager of Warren Petroleum Corp., and Paul R. Smith, attorney for the company have resigned to join Anchor Petroleum Co. They assumed their new duties February 1, Mr. Baden as vice president and Mr. Smith as secretary-treasurer. Both are also directors.

The company will produce and market butane and propane for domestic and industrial purposes. These products will be transported in tank-car and tank-truck lots. Engineering services will be provided for the conversion of industrial and domestic equipment to the use of butane and propane gases. Mr. Baden is widely known in the industry, having been for several years an active member of the national Liquefied Petroleum Gas Association.

Gasoline Plant Sells Residue Gas To Manufacturer of Plastics

Otha H. Grimes is completing a gasoline plant which will operate at 300 lb. pressure in the Temple field, Michigan. The plant will have a capacity of 5,000,000 cu. ft.; gas will come from the properties of Pure Oil Co., Talbot Oil Co., American Drilling Co. and others. Residue gas from the plant will be sold to Dow Chemical Co. for use as raw material in the manufacture of industrial plastics as well as for fuel. The purchaser of the gas has equipment for extracting propane and ethane. The gas has an unusually high ethane content. An analysis of the gas shows: Methane, 52.8 per cent; ethane, 24.6 per cent; propane, 13.2 per cent.

Dow Chemical Co. let a contract to Gentry Engineering Co., Jackson, Mich., for the construction of a 54-mile 6-in. line from the Grimes gasoline plant at Temple to their own plant at Midland, Mich. Work is starting and it is expected that the line will be completed some time in March. According to the contract gas is to be delivered to the Dow plant at 275 lb. pressure.

Pent Hex Starts Operation of Southwest Michigan Plant

GRAND RAPIDS, Mich.—Pent Hex Corp.'s new gasoline plant in the Walker-Tallmadge field was placed in operation this week. The plant is the first of its type in any southwestern Michigan oil field; it is designed to handle 6,500,000 cu. ft. of gas daily. West Michigan Consumers Co. will purchase residue gas from Pent Hex. John W. Robinson, of Muskegon, is president of both Pent Hex and West Michigan Consumers. A 20-mile, 8-in. pipe line connecting the plant with West Michigan's line from Muskegon to the Ravenna gas field and the compression plant, together, cost $250,000.

Pressure-Maintenance Project Started in Payton Field

MIDLAND, Tex.—Construction of a 2,000,000 cu. ft. daily capacity pressure-maintenance plant in the Ward County section of the Payton field was started last week by Luse & Ice, of Dallas, Tex., on their 11-well Blair lease. Compression equipment will consist of two 200-hp. gas engine-compressor units, operating at discharge pressures of 750 to 800 lb. The new plant is to be located in Section 5, Block 32, H.&T.C. Survey.

Refinery Expansion

Turner Valley Refiner Plans Expansion

CALGARY, Alta.—Gas & Oil Products, Ltd., which recently expanded its refinery facilities in the Turner Valley field, is considering the addition of equipment to produce high-octane aviation gasoline. A representative of the company recently visited United States plants manufacturing such equipment. The present refinery is in a position to manufacture 85-octane gasoline, suitable for preliminary training of pilots, but there are no facilities for producing 90 to 100-octane gasoline, such as modern bombers and fighting planes require, from Turner Valley crude.

Standard of Louisiana Lets Refinery-Docks Contract

Contract has been let by the Standard Oil Co. of Louisiana to the W. Horace Williams Co., of New Orleans, La., for construction of new steel and concrete docks at the company's refinery at Baton Rouge, La. The project, costing nearly a million dollars, will provide new docks 1,000 ft. in length and 50 ft. in width, to replace old wooden docks built 30 years ago.

Lloydminster Builds Plant for Gasoline and Alcohol

LLOYDMINSTER, Sask.—Rapid progress is being made with the refining plant of A. C. Chemicals Co. here; the laboratory and power house have been completed and some equipment has been installed, while a tube still and 65-ft. bubble tower are under construction. Storage tanks are in position and a storage pit for 175,000 bbl. of crude is under construction. The plant is designed to produce high-octane gasoline and industrial alcohol from the Lloydminster heavy crude.

Standard of New Jersey Will Make Synthetic Rubber

NEW YORK, Feb. 6.—Plans are being made to use petroleum gases in the United States for the manufacture of a synthetic rubber similar to the so-called buna rubbers manufactured from coal and limestone in Germany. Standard Oil Co. (New Jersey), controls buna development in the United States through an arrangement with I.G. Farbenindustrie, the German chemical firm which pioneered the process. Synthetic rubber made from butadiene and styrene is known as "buna-S." This product is now used in Germany for making tires for automotive equipment.

During the past 2 years, experimental samples of buna-S have been received in the United States and small commercial quantities of perbunan or buna-N have been imported as a specialty material. In the early stages of development work I.G. Farbenindustrie recognized that petroleum, rather than coal, would be the cheapest raw material for making butadiene in countries having oil resources. The Standard Oil Co. (New Jersey), expects to produce butadiene from refinery gases for the American market at an early date.

Before the present war started, the chemical firm, I.G. Farbenindustrie, produced approximately one-third of the rubber consumed in Germany. When the World War ended, commercial development of synthetic rubber in Germany lapsed until 1927, when methods were found to convert coal and limestone into a new synthetic rubber raw material known chemically as "butadiene." The original buna synthetic rubber was a polymer or chemically combined form of butadiene. The name "buna" is derived from "bu" for butadiene, and "na" for natrium, the German name for sodium. The latter substance was the material first used to accomplish polymerization.

Fractionating towers at the Sunray, Tex., refinery of Shamrock Oil & Gas Corp.

Natural Gas

Parade Gasoline Co. Wins New London School Suit

TYLER, Tex.—A verdict for the Parade Gasoline Co. and others, against W. M. Thompson, father of a boy killed in the New London school explosion of March 18, 1937, was directed by federal Judge Randolph Bryant here. The ruling applies to 14 similar cases.

Inasmuch as the Parade Gasoline Co. never gave permission to the New London school system to tie into the company's residue-gas line for fuel, as testimony showed, and because the school did so anyway, as admitted by former Supt. W. C. Shaw, the school acted as trespasser, and trespassers trespass at their own risk, Judge Bryant ruled.

Carbon-Black Hearing Called in Texas

AUSTIN, Tex.—The Texas Railroad Commission has called a hearing for February 9 at Austin to determine whether products manufactured by the General Atlas Carbon Co. "are carbon black within the meaning of the statutes, and whether or not the process employed by this company is an efficient chemical manufacturing process, and for the purpose of determining whether or not the order of August 19, 1937, relating to its operations, should be rescinded."

New Proration Regulations In Hugoton Field

TOPEKA, Kans.—New proration regulations for producing gas in the Hugoton field, issued by the state Corporation Commission, went into effect February 2. The order divides the nine-county area into five zones according to market demand and physical characteristics of the field, for monthly allocation of production between wells.

Acreage on which wells are spaced, gas pressure, and capacity to produce, are the factors in the new proration formula; four-fifths of the allocation based on acreage times pressure, one-fifth on open-flow potential. Previous production allotments were based three-fourths on acreage, one-fourth on potential.

The 275 wells in the field, located mostly on 640-acre and 160-acre tracts, have a combined open-flow capacity of nearly 2,000,000,000 cu. ft. Producers have a market demand of about 86,000,000 cu. ft. daily. Only 112,353 acres of the total 1,300,000 in the gas area have been developed.

The commission found that a well is capable of adequately draining 640 acres without appreciable waste, and that this "appears to be the standard drilling unit" for present and future drillings.

Outlet for Arkansas Gas in Chemical Manufacturing

LITTLE ROCK, Ark.—The Arkansas Oil and Gas Commission is taking measures to provide an outlet for gas production developed in the state, which has been lacking an outlet. The possible establishment of a chemical industry in the southern section of the state, utilizing lime deposits and natural gas, is seen in the interest shown by manufacturers. This prospective use for South Arkansas gas will solve a problem which the Department of Public Utilities has been considering in attempting to induce distribution companies operating in the state to use Arkansas gas in their systems. A major company in the carbon-black industry is investigating possibilities, with the aim of establishing acid-manufacturing facilities in Arkansas.

Abundant limestone deposits on the Annona chalk outcrop in Hempstead and neighboring counties, coupled with available gas in fields to the east provide materials for burnt lime, carbon dioxide and acid manufacture. At a conference in Little Rock this week, members of the Arkansas Oil and Gas Commission, the state Department of Public Utilities and the state geologist will submit a prospectus to the company outlining the potentialities of the project.

Table 1 outlines the gas production in South Arkansas under present conditions. Developments within the next few months may change the availability of gas, however. For example, gas produced in the Magnolia field will be processed in a new natural-gasoline plant due for initial operation in February. Disposal of the residue gas from this plant will be controlled by Shell Oil Co., Inc., operator of the cooperative plant. This gas may be available for sale to prospective acid manufacturers unless the operators themselves decide to utilize it for that or other purposes.

The Dorcheat field is a possible important producer of gas in the future. Studies of the field's production are being made to determine the state of the production in the reservoir, and future development will depend on their findings.

TABLE 1—GAS PRODUCTION AND AVAILABILITY

Field—	Daily oil prod. (bbl.)	Gas/oil ratio (cu. ft.)	Daily gas prod. M.C.F.	Approx. available gas volume M.C.F.
Atlanta	750	1,000	750	(*)
Big Creek	gas field	closed in	0	4,000
Buckner	2,600	200	520	(*)
Dorcheat	1,000	10,000	1,000	(*)
Lewisville	700	600	420	(*)
Magnolia	20,000	1,200	24,000	20,000
Schuler, Jones	15,000	1,200	18,000	9,000
Schuler, Rey.	2,500	1,000	2,500	1,000
Village	1,500	6,500	9,750	6,000
Total gas available				40,000

*Negligible, will be used for drilling or field use.

Table 2 shows pressures and sulfur content of the gas production in the nine pools. South Arkansas gas would require treating before use in domestic distribution systems, making such an outlet improbable in view of the ready supply of sweet gas from North Louisiana. In addition, its use in the manufacture of carbon black is prohibited by state law. Elimination of these two possibilities for its use has focused attention on the importance of the proposed new industry in the state.

TABLE 2—PRESSURE AND HYDROGEN SULFIDE CONTENT

	Pressure—lb. per sq. in.				grains/
Field—	Reservoir	Casing	Tubing	Trap	100 cu. ft.
Atlanta	3,790	2,200	1,500	150	1,200
Big Creek	...	2,400	2,350	...	300
Buckner	2,830	300	300	40	...
Dorcheat	4,210	2,800	2,500	60	2,400
Lewisville	1,150	500	300	15	...
Magnolia	3,350	1,500	1,200	40	1,400
Schuler, Jones	2,310	1,700	900	150	40
Schuler, Rey.	3,420	2,000	1,500	175	800
Village	3,315	2,400	2,000	200	800

Fifteen Active Drilling Wells, Seven Rigs in Mississippi

By GEORGE WEBER

JACKSON, Miss., Feb. 5.—Drilling operations in Mississippi stood at a total of 15 active drilling wells and wildcats, 7 tests rigged up and shut down, and 3 operations rigging up for immediate spudding. Of the 15 active drilling tests, nine are located in the Tinsley field of Yazoo County and the remaining six are scattered wildcats in widely separated sections of the state.

Wildcatting shows indications of increasing steadily during the next several weeks. A total of 19 tentative locations and wildcatting obligations on lease blocks are now slated for spudding. This new activity is expected to intensify interest in the state, which heretofore has been centered on the leasing and blocking phase. Without further oil strikes during 1940, it is reliably estimated that a total of 100 tests will be drilled in the state this year, of which possibly 30 will be in the Tinsley field, the remaining tests to explore wildcat territory. With this outlook, Mississippi may well hold the spotlight throughout the year, and any additional oil strikes will serve to accelerate drilling and wildcatting.

Leasing in the state and in Alabama has slumped, due to inclement weather, and to the finished work of many operators who, with their blocks assembled, are awaiting development with the drill. The area to the north and northwest of Tinsley is interesting, however, in view of the proposed wildcats and extension tests there.

Geophysical activity is also centered in the area to the north, northeast, south and southeast of Tinsley. Some 64 crews are active in Mississippi and Alabama.

Standard Oil Co. of Louisiana announces that Tinsley crude will continue to be purchased by that company as long as the production averages about 300 bbl. per well. A reduction in transportation rates from Tinsley to the company's Baton Rouge refinery was a factor in the continued purchasing. In addition to the Standard outlet, a trial shipment of 10,000 bbl. of crude is being moved by Union Producing Co. to the 4,000-bbl. skimming plant of Coastal Petroleum Co. at Mobile, Ala.

One new producer was completed at Tinsley during the week, Jones & O'Brien's No. 2-C Stevens, which gaged 1,850 bbl. the first 24 hours through a 30/64-in. choke. It is producing from the Woodruff sand at 4,729-52 ft. Hassie Hunt's No. 3 Johnson and No. 1 Fair, Union Producing Co.'s No. 3 Perry and No. 4 Stevens were all on the sand late last week and are slated for early completion.

Tinsley production averaged 4,626 bbl. daily from 16 wells for the week ended January 31, although potential production is estimated at 19,000 bbl. daily. Accumulative production to February 1 is 210,694 bbl.

Willmut Gas Gas & Oil Co.'s No. 1 Roberts, Monroe County, has reported 56 ft. of hard sand in Ordovician between 2,900 and 3,000 ft. showing oil, and setting casing to test.

(Mississippi and Alabama wildcat report on Page 99.)

Record Number of Drill Permits Granted in Texas Oil Fields

AUSTIN Tex.—An unprecedented number of permits to drill were granted by the Railroad Commission last week as Texas operators filed locations for tests before the statewide spacing rule became effective. The total number of 523 drilling applications were filed during the week, of which all but a few were placed before February 1. On that date the new spacing rule requiring wells to be drilled on 20-acre tracts, 467 ft. from lease lines and 933 ft. between wells became effective. Last week's total compared with 322 permits in the previous week and brought the month's total to 1,597. Of those granted last week, only a few of the permits could qualify under the new spacing regulation and 12 were in exception to the old statewide rule. Fields and areas in which special spacing rules have not been adopted received the great bulk of requested permits to drill.

West Central Texas led the state with 207 permits granted, of which 196 were regular under the old regulation. Leading county of the district was Shackelford with 109 locations, while Callahan County received 59. In Southwest Texas 94 permits were granted, and in North Texas 84 permits to drill were issued of which 21 were in Wichita County and 20 in Clay County. The Panhandle district received 52 locations of which 25 were in Hutchinson County and 21 in Gray County.

In West Texas and the Gulf Coast districts, where wide spacing is the rule rather than the exception, the number of drilling permits granted showed no change from normal. A total of 51 tests were recorded for West Texas, 16 of which were in Ector County and 12 in Pecos County, while Gulf Coast operators received 16 of which 2 were exceptions. A total of 19 permits were issued in East Central and East Texas fields, only one being in the latter.

McColl-Frontenac Takes Over Texas Oil Co. Sales System

CALGARY, Alta.—On February 1, under an agreement made last year, McColl-Frontenac Oil Co. of Toronto and Montreal formally took over the marketing system of Texas Oil Co. of Canada in the western provinces. A. F. Campe, general sales manager, states that in the near future the company will discontinue its policy of importing gasoline for sale on the prairies and utilize Alberta production. Construction of a western refinery to supplement those at Montreal and Toronto has been considered as a project for the future. The Texas Co. at various times has carried on geological work in western Canada, but no plans for drilling are indicated.

DEATHS

RALPH D. REED, 50, chief geologist of Texas Co. of California and a past president of the American Association of Petroleum Geologists, died last week at his home in Pasadena following a prolonged illness which resulted in the amputation of a leg to halt a cancerous growth. He was born at Democracy, Knox County, Ohio, and worked his way through Hiram College, with a B.Sc. degree in 1913. After 3 years of teaching at Mattoon, Ill., high school, he studied geology at the University of Illinois, doing geological mapping in Kansas during the summer for Gypsy Oil Co. He spent a year as instructor at University of Oklahoma in 1921-22, and in 1922 removed to California with a teaching fellowship at Stanford University. In 1924 he became geologist for Coast Land Co., predecessor of Mariand Oil Co. of California, of which he became chief geologist until 1929, when he became assistant chief geologist of Texas Co. of California, advancing to chief geologist in 1930. He was at one time editor of the A.A.P.G., having been a member of the association since 1920. He was elected to honorary membership in 1939. He was a prolific writer, having contributed 24 major geological papers and written two books on geological subjects.

MARK C. DRISCOLL, 58, Heuston, Tex., oil operator, died February 4.

THOMAS FLAHERTY, 65, Bradford, Pa., drilling contractor, died recently.

J. GUS PATTON, 64, Tulsa, at one time chief engineer for Indian Territory Illuminating Oil Co., died February 4.

THOMAS R. THOMPSON, 41, assistant to the advertising director, Lone Star Gas System, Dallas, Tex., died January 25 in a Dallas hospital of a heart attack which followed an appendectomy.

COL. ARTHUR FARRAGUT TOWNSEND, 74, chairman of the board of Raybestos-Manhattan, Inc., and general manager of the Manhattan Rubber Manufacturing Division, Passaic, N. J., died January 14, at Ridgeway, N. J.

JOHN E. WINSLOW, with Shell Oil Co., Inc., at St. Louis, Mo., and general chairman of the standing committe on social-security matters of the Mid-Continent Oil and Gas Association, died at Chicago after a 2-day illness with pneumonia.

JAMES F. DRAPER, 73, died at Port Huron, Mich. Learning the oil business with the J. Woodard & Son refinery at Petrolia, Ont., he later represented the John McDonald refinery in Toronto and with his brother conducted T. Draper Sons at Petrolia and founded the Draper Manufacturing Co. at Port Huron, manufacturing oil-well and refinery equipment. He retired in 1934.

JOHN CHARLES BENNETT, 72, Tulsa, president of Bennett Drilling Co., died February 4. Born in Ohio, he entered the oil business in 1894, and followed the development into Indiana and Illinois. He was for 19 years production superintendent for Prairie Oil & Gas Co., resigning to take a similar position with Skelly Oil Co., later becoming production superintendent for New England Oil Co. He organized the drilling company 8 years ago. Mr. Bennett was the Prairie company's first production superintendent and during his 19 years in that capacity it is estimated that about 2,200 wells were drilled under his direction.

Companies Need Not Pay Bulk-Plant Social Tax

SPRINGFIELD, Ill., Feb. 6.—Federal Judge Briggle today ruled that major petroleum companies are not compelled to pay old-age and unemployment taxes for employes of bulk-plant operators who handle their products. It is estimated that this ruling means savings to oil companies which will total millions. The decision was made as a result of a suit brought by the Indian Refining Co. (Texas Co.) involving a bulk-station operator at Paducah, Ky., handling the company's products.

Central West Utility Co. Takes Over Erndi Co.

JEFFERSON CITY, Mo.—The Public Service Commission has approved plans to merge the Central West Utility Co. of Kansas and the Erndi Oil & Gas Co. which produces gas distributed by Central West.

Under the merger Central West, with headquarters at Bonner Springs, Kans., would assume the obligations of the Erndi company with authority to issue 27,000 shares of $10 par value common stock to present stockholders of both companies.

Central West operates in six Kansas counties and these Missouri communities: North Kansas City, Liberty, Plattsburg, Smithville and adjacent rural areas.

U. S. Chamber of Commerce Condemns Cole Bill

WASHINGTON, D. C., Feb. 5.—The board of directors of the Chamber of Commerce of the United States, at its meeting January 26, adopted the following statement in pursuance of policies to which the chamber has been committed by its membership on the subject of "Control of Petroleum Production."

"We note with approval the successful efforts of the individual states to control their petroleum resources by means of an interstate compact. We recommend further extension of the state compact plan with only such cooperative federal legislation as may be required to effectuate conservation statutes of the individual states.

"We are opposed to federal legislation now proposed in Congress that would take from the states their responsibility for the conservation of their petroleum resources, and that would centralize in the federal Government complete control over petroleum production.

"With the prospect of early enactment of state legislation covering the only important field where conservation statutes appear to be needed at this time, it is believed that enactment of federal control legislation would interfere with the furtherance of the compact plan, which in our opinion offers a practical method of meeting the country's problem of conserving its petroleum resources."

The creation of a federal agency to coordinate plans and projects for the development of natural resources was recommended in a report approved by the board of directors of the chamber. While the proposed agency would not be a continuation of the National Resources Planning Board, for which Congress has so far refused any appropriation for next year, it would exercise certain functions of the latter agency. Its activities would deal solely with natural resources of lands, waters, forests, minerals, particularly in the West, and it would render advisory assistance to the states in reaching interstate compacts.

The committee recommended that "this agency be comprised of the secretaries of war, interior, and agriculture, or their respective representatives, and a preponderant number of private citizens appointed by the president from widely separated areas of the country serving only on a per diem basis and confirmed by the senate."

At a meeting of the natural-resources-department committee of the chamber, the committee adopted the following statement:

"The policies of the chamber respecting mineral resources declare that 'the U. S. Bureau of Mines and the U. S. Geological Survey should be maintained at high efficiency.' The chamber's natural-resources committee wishes at this time to express its confidence in and approval of the excellent work that has been done over a long period of years by the U. S. Bureau of Mines and the U. S. Geological Survey. These scientific agencies of the federal Government are maintained under civil service, and their civil-service status should be maintained at all times. They have been and still can be maintained in a state of high efficiency only as they are kept free of political influence."

Spokesmen Oppose Cole Bill

(Continued from Page 15)

to the effect that federal oil control should be made more positive and more certain. In answer Governor Ratner declared that, in the light of the subsequent 6 years' experience with state regulation, those very men would, he is sure, agree with him that state regulation is preferable.

Gov. Homer A. Holt of West Virginia told the committee that he joins with other governors in their stand against the bill because he feels that it is an unnecessary and unwarranted extension of federal authority.

Declaring that Colorado does not have today an extensive oil industry, Gov. Ralph L. Carr said the people of his state are apprehensive about the effect of such legislation as the Cole bill when the state does develop its oil resources. He cited Colorado's experience with water and irrigation legislation, as justification for such fears and said he felt the Cole bill calls for a definite encroachment on states' rights.

Gov. Carl E. Bailey of Arkansas declared there is no need to discuss the merits of the bill—its very presentation is a challenge and if amended to a more insidious form, it would be more dangerous than in its present frank form.

"In the record of the committee hearings there is an utter failure to demonstrate waste. Back of the bill is an assumption that local officials and individual citizens are too incapable, dishonest, or indolent to attend to their own business. But, even if there is waste, the bill is not justified because it is a subversive attempt to change our form of government. The people don't want it changed, waste or no waste, and the system is more valuable than the oil. If some states don't conserve, it is more to the selfish interest of others to do so."

Governor Bailey asserted that "where the federal Government takes control of resources it is communism—that is what communism is. There is no essential difference between the national-defense characteristics of oil and other natural resources. If the sovereign people want to be extravagant the king can do no wrong."

Gov. Roy E. Ayers of Montana declared what the people want now is less legislation and more opportunity to work out their own problems. There is nothing in the Cole bill that helps the consumer but the cost would be passed on to him. States do want to conserve their resources and to use the experience of other states and work out problems for themselves. The people will like this better than if the federal Government tells them what to do. If the Government controls production it will then attempt to control refining, transportation, marketing, prices and finally use of gasoline.

Gov. Nels H. Smith of Wyoming declared that under the Cole bill the Government would have the power to reduce or eliminate state royalties on oil land owned by it which were guaranteed to it when the state joined the union. He pointed out the Constitution guarantees each state a republican form of government and asserted the Cole bill would not provide a republican form of regulating oil production.

Messages in opposition to the bill were received during the hearings from Gov. Paul B. Johnson of Mississippi, Gov. W. Lee O'Daniel of Texas, and the Conservation Department of Louisiana.

On behalf of the State of Michigan a statement was presented by P. J. Hoffmaster, supervisor of wells, and R. A. Smith, state geologist, who described Michigan's recent conservation law and declared it to be fully competent to prevent waste in oil production. They concluded:

"The bill under consideration here we believe to be unnecessary. Our state has recognized fully its duty to conserve its oil and gas resources and has enacted a strong oil-conservation law. Provisions have been made for its enforcement. Were the Cole bill or any similar bill to be enacted we consider it to be an unwarranted invasion of the constitutional rights of the state. It would cause an unnecessary and large duplication of effort and expense and result in conflict and confusion on the part of everyone involved, but especially on the operators and producers."

Governor Phillips will testify Wednesday morning.

The nature of the testimony to be presented to the committee was outlined Monday at a conference of eight governors of oil-producing states. These were Leon C. Phillips of Oklahoma, Payne H. Ratner of Kansas, Carl E. Bailey of Arkansas, John E. Miles of New Mexico, Nels H. Smith of Wyoming, Homer A. Holt of West Virginia, Ralph H. Carr of Colorado, Roy E. Ayers of Montana. Also present was Gov. E. D. Rivers of Georgia, who, as a representative of a consuming state, endorsed the stand of the other governors against federal interference with state rights. All the governors planned to appear before the committee in person, and in addition there will be spokesmen for Michigan, Mississippi, Texas, Pennsylvania and Louisiana.

Governor Phillips, spokesman for the group, said the state executives would contend that the bill would create an unnecessary government agency. He said the group would offer these general objections:

That it would constitute federal interference with state rights; that the states were in a better position to conserve their oil resources than the federal Government; that there might arise a tendency to upset the balance in state oil production, and that federal control would upset the states' methods of prorating production among operators.

"There are more oil reserves in sight in the United States right now," Governor Phillips said, "than ever before in the history of the Government. State conservation has resulted in the development of a better product at a reduced price."

The "autocratic" federal control which would be established by the Cole bill, would work an eventual hardship, he argued, on the consumer.

Railroad Commissioner Jerry Sadler of Texas said he and the two other members of the commission would defend their state against "any pot shots" the Interior Department might take at their petroleum conservation program.

"We don't have any testifying to do unless they try to besmirch our good record," he said. "The department itself previously found our production waste was only 1.8 per cent. We have an idea they may try to contend now that the waste is considerably more."

Mr. Sadler said he and Commissioners Ernest O. Thompson and Lon Smith were against the Cole bill "because it would be putting a big foot in our front door."

PROGRAMS AND MEETINGS

Safety Will Be Featured At Petroleum Exposition

Exhibits, conferences, and contests for safe drivers and supervisors in the oil industry will feature the safety activities for the 1940 International Petroleum Exposition at Tulsa, May 18 to 25, according to H. W. Boggess, superintendent of safety, Sinclair Prairie Oil Co., Tulsa, who has been appointed chairman of the safety committee by Pres. W. G. Skelly.

"Each exhibitor will be urged to stress the safety features of the equipment on display," Mr. Boggess said. "Instead of having just one safety day, the subject will be a dominant part of the entire exposition."

An exhibit is being planned for the Hall of Science to show the technical progress of safety and its influence on the design of tools, machinery, and equipment. In addition, contests will be conducted to determine the safest truck driver and driver of automobiles in the four major branches of the industry, production, refining, pipe line, and marketing.

"Nationally known safety experts have been invited to speak at an all-day safety conference on Thursday, May 18," Mr. Boggess said.

Serving with Mr. Boggess on the central committee are: F. K. Dalrymple, Tide Water Associated Oil Co., president of the Mid-Continent Safety Council; E. D. Murphey, safety engineer, Mid-Continent Petroleum Corp.; J. C. Young, Tide Water Associated Oil Co., and G. O. Lockwood, Continental Casualty Co., all of Tulsa.

Doherty Foundation Awards Thirteen Scholarships

An award of 13 scholarships by the Henry L. Doherty Educational Foundation is announced. The scholarships presented to sons and daughters of the organization's personnel in 11 states.

The foundation was organized in 1939 by employes of the Cities Service organization in honor of the late Henry L. Doherty's sixty-ninth birthday. Its management is entirely in the hands of employe committees. Funds to defray the cost of scholarships are made up of voluntary subscriptions by members. Officers of the foundation are: Ralph A. Cornell, president; Mildred Taft, vice president; J. F. Poggenburg, treasurer, and Rose S. Welch, secretary.

Albany Banquet to Honor Area's Oil Pioneers

ALBANY, Tex.—Pioneers of the oil industry in West Texas will be honored at a banquet given by the Chamber of Commerce of this city on the evening of February 12. The celebration will commemorate the silver anniversary of the first discovery of oil in West Texas —in Shackelford County, several years prior to the Ranger, Eastland, and Breckenridge strikes. Charles F. Roeser, of Fort Worth, past president of the I.P.A.A., Ed Landreth of Landreth Production Corp., Fort Worth, and many members of the oil fraternity who held places with operating companies of earlier days have been invited. Both Messrs. Landreth and Roeser will speak.

The dinner will be held in the dining room of the McLemore Hotel at 7 o'clock, A. H. Howsley, attorney and oil producer of Albany, is general chairman for the banquet, and is being aided by Joe A. Clarke, president of the West Central Oil and Gas Association.

Speakers Announced for North Texas Association Meeting

WICHITA FALLS, Tex.—Annual meeting of the North Texas Oil and Gas Association to be held here February 24 will be highlighted by addresses from three outstanding figures in the oil industry. Main address of the annual banquet will be made by State Senator Clint Small of Amarillo, and will be broadcast over a statewide radio hookup. Senator Small has taken active leadership in enacting conservation laws and is an outstanding authority on oil and gas laws of Texas. He is general counsel for the Independent Oil Producers Equity Association.

The other two speakers of the evening are J. C. Hunter of Abilene, president of the Mid-Continent Oil and Gas Association, and Frank Buttram, of Oklahoma City, Okla., president of the Independent Petroleum Association of America. Railroad Commissioners Lon A. Smith, Col. E. O. Thompson, and Jerry Sadler are expected to attend the organization's luncheon on the same date.

Illinois Geologist Society Elects Fuller President

Melvin E. Fuller, division geologist for Carter Oil Co. at Mattoon, Ill., was elected president at the annual meeting of the Illinois Geological Society at Olney. B. Maxwell Miller, district geologist for Texas Co. at Mattoon, was elected vice president, and James G. Mitchell, geologist for Pure Oil Co. at Clay City, was elected secretary-treasurer. The principal address was delivered in a paper by Ira H. Cram, chief geologist, Pure Oil Co.'s southwestern division, who compared the geological structure of the Mid-Continent field with that of the Illinois basin. The society has about 200 geologist members in southern Illinois.

National Oil Scouts and Land Men's Association

Plans for the National Oil Scouts and Land Men's Association to be held at Little Rock, Ark., May 16, 17 and 18, will be in charge of a committee headed by Jake Brandt, Texas Co. at Shreveport, La. His aids will be Harry L. Norris, Sinclair Prairie Oil Co., Shreveport; N. C. Hoover, Shell Oil Co., Inc., El Dorado, Ark.; C. H. Geiger, Standard Oil Co. of Louisiana, El Dorado; J. B. Storey, Magnolia Petroleum Co., and Bill Cox, Texas Co., both of Jackson, Miss.

The committee was named by J. C. Chisholm, Pure Oil Co., Houston, following the meeting of the officers at Shreveport.

Attending the meeting besides President Chisholm were C. J. Bradley, Texas Co., Tyler, Tex., vice president; Ralph C. Steinman, Sinclair Prairie, Tulsa, vice president; H. L. Eversberg, Shell, Baton Rouge, La., chairman executive committee; R. L. Denton, Magnolia Petroleum, Kilgore, Tex., secretary-treasurer, and Lee A. Adams, Sinclair Prairie, Oklahoma City, Okla., chairman board of directors.

CALENDAR OF EVENTS

February

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, New York, February 12-15.

ILLINOIS BASIN CHAPTER, A.P.I. DIVISION OF PRODUCTION, at Emerson Hotel, Mount Vernon, Ill., February 23.

March

AMERICAN SOCIETY FOR TESTING MATERIALS, Statler Hotel, Detroit, Mich., March 4-5.

AMERICAN PETROLEUM INSTITUTE, Mid-Continent district, Division of Production, Wichita, Kans., March 14-15.

AMERICAN PETROLEUM INSTITUTE, Pacific Coast district, Los Angeles, Calif., March 19.

AMERICAN PETROLEUM INSTITUTE, Southwestern district, Division of Production, Houston, Tex., March 28-29.

April

WESTERN PETROLEUM REFINERS ASSCIATION, annual meeting, Allis Hotel, Wichita, Kans., April 1-2.

AMERICAN CHEMICAL SOCIETY, Cincinnati, Ohio, April 8-12.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Stevens Hotel, Chicago, April 10-12.

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, Columbus, Ohio, April 11-12.

SOUTHWESTERN GAS-MEASUREMENT SHORT COURSE, University of Oklahoma, Norman, April 16-18.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 18-19.

May

PETROLEUM INDUSTRY ELECTRICAL ASSOCIATION, Dallas, Tex., May 1-3.

NATURAL GASOLINE ASSOCIATION OF AMERICA, annual convention, Hotel Tulsa, Tulsa, May 15-17.

NATIONAL OIL SCOUTS AND LAND MEN'S ASSOCIATION, annual convention, Little Rock, Ark., May 16-18.

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.

AMERICAN PETROLEUM INSTITUTE, midyear meeting, Fort Worth, Tex., May 27-31.

June

ILLINOIS-INDIANA PETROLEUM CONGRESS, eighth annual meeting, Robinson, Ill., June 1.

AMERICAN SOCIETY FOR TESTING MATERIALS, Chalfonte-Haddon Hall, Atlantic City, N. J., June 24-28.

September

NATIONAL PETROLEUM ASSOCIATION, thirty-eighth annual meeting, Hotel Traymore, Atlantic City, N. J., September 18-20.

October

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

November

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago, November 11-15.

Service on New Fields

Tinsley Field, Central Yazoo County, Mississippi

Compiled by The Oil and Gas Journal

Approved name
Tinsley field.

Geographic location
Central Yazoo County, West Central Mississippi.

Topography
Located in the Delta Hills, on the southeast edge of the Delta lowlands of the Mississippi River.

Principal cities and towns
Yazoo City, county seat, population 8,000, is situated 9 miles north of the field. Tinsley, a railroad station adjacent to the field, is a growing community, as are nearby Anding and Oil City. Jackson, state capital, population 63,000, lies 35 miles to the south.

Highways and roads
The field is reached by 6 miles of gravel road from the Jackson-Yazoo City paved Highway 49.

Railroads
Yazoo and Mississippi Valley, division of the Illinois Central, skirts the field with service at Tinsley.

Water transportation
The partially navigable Yazoo River runs 3 miles from the field and may be dredged to provide barge navigation to the Mississippi River system.

Supply houses
Local supply houses include one each at Tinsley and Yazoo City, other supplies moved in from North Louisiana stores.

Trucking and hauling
Three trucking contractors maintain service in the field and at Tinsley, and Yazoo City.

Utilities
R.E.A. electrical power available in field; natural gas furnished from Southern Natural Gas Co. system.

DEVELOPMENT

Discovery
The presence of a structure at Tinsley was first indicated from the surface work of Frederic Mellen, W.P.A. geologist, working in conjunction with the Mississippi Geological Survey. In a memorandum dated April 12, 1939, the Tinsley dome was described as indicated from outcrops of the Yazoo bentonite. With attention directed to Tinsley, Southern Natural Gas Co. took leases in the area, followed by Union Producing Co., Jones & O'Brien and others. Union made geophysical surveys of the area to check the surface geology, blocked up most of the immediate acreage and drilled No. 1 G. C. Woodruff in Section 13-10n-3w. The wildcat was completed on September 5 as the first oil producer in the state. Its initial production was gaged at 186 bbl. daily through a ¼-in. choke, with tubing pressure 300 lb., casing pressure 240 lb. and total depth 4,560 ft.

Producing wells
Of a total of 21 wells drilled in the field to date, 18 are producing oil, 2 were abandoned dry, and 1 has been abandoned since completion due to salt-water intrusion. Producers are divided among the following operators: Union Producing Co., 9; Jones & O'Brien, 5; Hassie Hunt, 3; and Edgar C. Johnson, 1.

Current drilling
Eight rigs are now active, drilling inside locations and edge tests on four sides of production.

Production
As of January 25, total accumulative production reached 182,938 bbl. and the previous week's daily average production totaled 4,655 bbl. from 16 producing wells. The estimated potential producion is 19,000 bbl. daily.

Production control
No proration is being administered to production, but operators voluntarily are holding per well production to about 300 bbl. daily. The Mississippi Oil and Gas Board is enforcing the drilling of wells on a 40-acre spacing pattern.

GEOLOGY

Structure
The Tinsley dome is marked by the presence of faults which have been indicated from drilling to date. A major fault extends in a northwest-southeast direction in the north part of the field. Three tests, E. C. Johnson's No. 1 Brumfield ,Jones & O'Brien's No. 2-C Stevens and Plains Production Co.'s No. 1 Milner are on the downthrow side of this fault, running about 300 ft. lower than wells to the south and southwest. The presence of other faults running roughly parallel to the main fault is indicated from the subsurface information of other wells in the field proper.

Producing sands
Sands of two formations produce at Tinsley. The principal sand is known as the Woodruff zone, lying in the base of the Selma chalk formation. This sand body varies in thickness from well to well, and it is suspected that other sand lenses not continuous with the Woodruff may be producing in some wells under the assumption that they are Woodruff-sand wells. The Woodruff sand has failed to produce in three wells, on the west and east edges of present production, and in an inside well in the north part of the field. Production from that zone has been completed to the north of the inside test, however, so the Woodruff cannot be considered as defined on the north.

Union Producing Co.'s No. 1 Stevens, failing to find Woodruff-sand production, deepened to find oil in the Eutaw formation, in a zone known as the Stevens sand. Salt-water intrusion has since caused abandonment of this well, but a north offset, the field's only Eutaw producer at the present time, is showing no water to date.

The lenticular character of the sands in both the Selma and Eutaw, coupled with the faulting in the area, make correlation of producing zones difficult, particularly on the north and east. The structure shows a general dip to the southwest, however, in the main section of the field.

Proven acreage
Total proven acreage is estimated at 1,250 acres, with reserve estimates averaging about 3,000,000 bbl. of ultimate recoverable oil. Both acreage and reserve estimates are difficult because of the irregularity of the producing sands.

Future development
About 10 inside locations remain to be drilled, but the development in edge and outpost locations will follow future completions and cannot be anticipated at this time.

DRILLING PRACTICES

Types of equipment used
Unitized steam-powered rigs are used in drilling at Tinsley. One well was drilled with a gasoline rig. Heavy equipment is not required because of easy drilling, normal depth and low pressures, but several rigs are large units due to their availability. Two and three boilers are used, and 136 ft. derricks.

Water
Sufficient drilling and drinking water is found at 950 ft., and surface water is available in wet seasons.

Fuel
Southern Natural Gas Co. serves the field with gas with a newly laid 8-mile spur line from its main line at Yazoo City. Oil is also used as drilling fuel.

Bits
Long-toothed rock bits designed for drilling shale formations are used mainly, most wells requiring from 4 to 6, in relatively easy drilling.

Casing program
The Mississippi Oil and Gas Board has revised its original ruling on intermediate casing allowing the setting of 600 ft. instead of 1,500 ft., due to low pressures. Most wells have 16-in. conductor casing, 10¾-in. intermediate string, and 7-in. producing casing. In

most cases, when wells were not drilled deeper into the Eutaw formation, producing string is cemented above the Woodruff sand. Deeper tests have pipe set through producing sand and are completed through perforations.

Drilling time

Wells to the Woodruff sand require about 4 to 5 weeks' drilling time from spudding to completion.

Contractors

Most operators use company rigs or rigs of affiliated drilling contractors.

PRODUCTION

Producing practices

All wells are currently flowing through reduced chokes on 2 and 2½-in. tubing. No water or treating problems are present in current producers. Bottom-hole pressures average 1,900 to 2,000 lb.

Outlets

Oil from the main part of the field is gathered in the Union Producing Co.'s system and moved to a loading rack at Tinsley. From there the bulk of it is moved by tank car to the Standard Oil Co. refinery at Baton Rouge. Two wells on the north edge of the field are flowing directly to tank cars on a separate loading rack north of Tinsley. Recently 50 tank cars of crude were moved to Mobile. Standard has announced termination of purchases after February, but may continue, and an export outlet is reported in the near future.

Posted price

Standard posts Tinsley crude in its North Louisiana-Arkansas schedule, which brings $0.95 for the 35-gravity grade. Hassie Hunt recently posted a flat price of $0.80.

Crude analysis

A storage sample from the Tinsley tank farm shows the following analysis:

Gravity	35.0
Color	black
Flash	below atmos.
Fire	below atmos.
Viscosity at 100° F., second	50
Pour point, °F.	0
B.s.&w., per cent	0.1
Sulfur, per cent	0.55
Tar content, per cent	20.0

ENGLER DISTILLATION

Per cent		Per cent	
I.B.P.	116° F.	40	538
5	200	50	628
10	253	60	688
20	349	69	717
30	443	Cracked	

BREAKDOWN

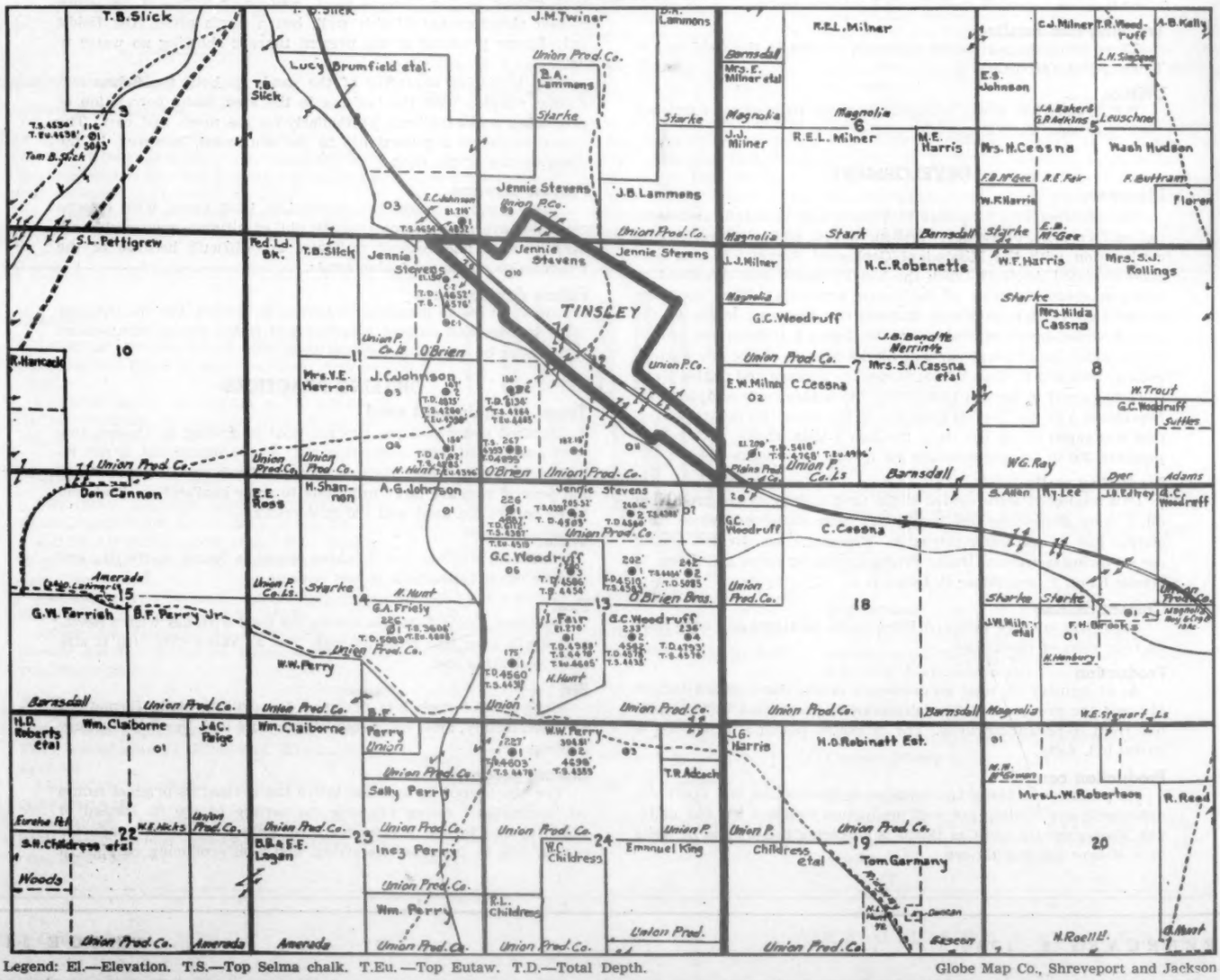
6,000 c.c. sample, gasoline fractionated at atmospheric pressure, kerosene and gas oil at 755 mm. Hg. Barometric pressure, 760 mm. Hg.

	Gasoline	Kerosene	Gas oil	Residue
Approximate yields	25.7	12.4	17.6	43.8
Gravity	63.2	45.2	35.9	19.1
Flash	....	168° F. TCC	235° F. PMCC	445° coc.
Fire	....	....	....	495° coc.
Vis. S.U. at 100° F.	....	....	42 sec.	....
Vis. Furol at 122° F.	....	....	....	105 sec.
Pour point	....	....	15° F.	55° F.
Color	+30 Say.	+23 Say.	1 NPA	....
Sulfur	0.03%	0.08%	0.27%	1.35%
Doctor	neg.	neg.	....	....
Corrosion (3 hrs. at 122° F.)	passes	passes	....	....
Vapor pres., Reid at 100° F.	4.4#	....	....	....
Octane number, C.F.R.	40	....	....	....
Aniline point	....	....	168.5° F.	....
Diesel index	....	....	60.5	....
Distillation				
I.B.P.	109	402	502	....
5 per cent	157	415	527	....
10 per cent	174	420	538	....
20 per cent	202	430	552	....
30 per cent	226	435	560	....
40 per cent	248	442	568	....
50 per cent	269	449	576	....
60 per cent	288	455	584	....
70 per cent	307	463	590	....
80 per cent	327	475	604	....
90 per cent	353	492	620	....
95 per cent	372	510	634	....
E.P.	399	523	650	....
Recovery	98%	99.0%	99.0%	....
Residue	1%	0.5%	0.5%	....
Loss	1%	0.5%	0.5%	....

RECAPITULATION

	Per cent
400 E.P. gasoline	25.5
Kerosene	12.4
Gas oil	17.6
Residue	43.8
Loss	0.7
Total	100.0

MAP OF TINSLEY FIELD



Legend: El.—Elevation. T.S.—Top Selma chalk. T.Eu.—Top Eutaw. T.D.—Total Depth.

Globe Map Co., Shreveport and Jackson

Automatic controls have an important part in the efficient operation of a modern natural-gasoline plant. This view shows dehydrator tank equipped with a liquid-level controller in front of the still. The flow of steam through the orifice in the steam line above is indicated in the steam-flow meter at the lower left; above the steam line can be seen the top of the temperature controller on the reflux line. In the upper part of the illustration is the back-pressure valve on the recompressor suction line which holds back pressure on the still reflux tank

ENGINEERING & OPERATING

FEBRUARY 8, 1940

Gas-Recovery System Installed by Kendall

By J. P. O'DONNELL

General view of Kendall Refining Co. gas-recovery installation at Bell's Camp

RECOGNITION of the value of vapor-tight gas-recovery systems is a comparatively recent development in the Pennsylvania fields. Only in the past 2 years or so have the producers in these fields recognized the fact that they were sustaining substantial losses both in the volume of crude-oil production as well as in gas supply through faulty or inadequate recovery systems and have taken steps to prevent such losses.

Pennsylvania Grade crude oil is a high-gravity crude and due to that characteristic is highly susceptible to evaporation. R. B. Bossler, of the Brundred Oil Corp., showed losses in volume of from 6 to 9 per cent for Pennsylvania crudes of varying gravities with a drop of 2° in gravity in his article, "Forecasting Evaporation Losses," in the August 10, 1939, issue of The Oil and Gas Journal. A decline of 2° in gravity is not uncommon in the loose systems generally employed in these fields.

More attention has been and is being paid to gas recovery in the Bradford field than in any other section of the Pennsylvania Grade area. Here quite a few distinctive systems are being employed with varying degrees of efficiency. One that embodies the three most desirable principles, i.e., simplicity and inexpensive construction, has been designed by E. G. James, assistant production superintendent of the Kendall Refining Co. Inexpensive construction is attained by utilizing existing or discarded equipment and by welding all parts.

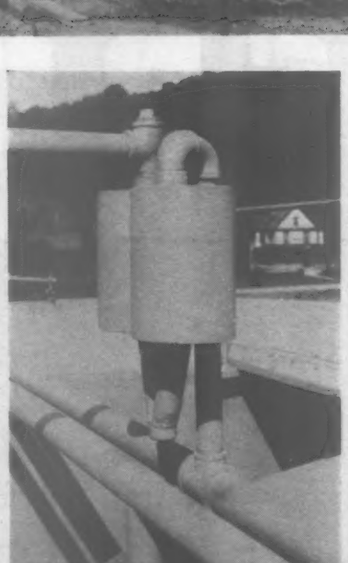
The efficiency of the system is attested by the savings which the company has effected. These include an estimated 5 to 15 per cent increase in the value of oil and gas production and the elimination of fuel bills amounting to hundreds of dollars per month. One installation resulted in an increase of 27 per cent in production on a lease where the daily production had dropped to 22 bbl. per day. Upon installation of the system, production rose to 28 bbl. and in the ensuing 12 months has not declined to its previous level. Twenty-five of these systems have been installed on Kendall leases and all those on which such installations are economically justified will be so equipped.

Another particularly desirable feature of this system is that all lead lines from the wells to the separators are buried and it is possible to pump night or day in winter without danger of a freeze-up. This is an important consideration in a water-flood field where large volumes of water are handled and particularly important in the Bradford field where subzero temperatures are frequently encountered in the course of the average winter.

The system employed by the Kendall Refining Co. is shown in the accompanying diagram. Gas, water and oil from the wells enter the system at *A*. Oil and water are discharged into the settling tank at *B*. Water leaves the tank through siphon line *C-D* and passes to the slop tank which it leaves through siphon line *F* to discharge *G*.

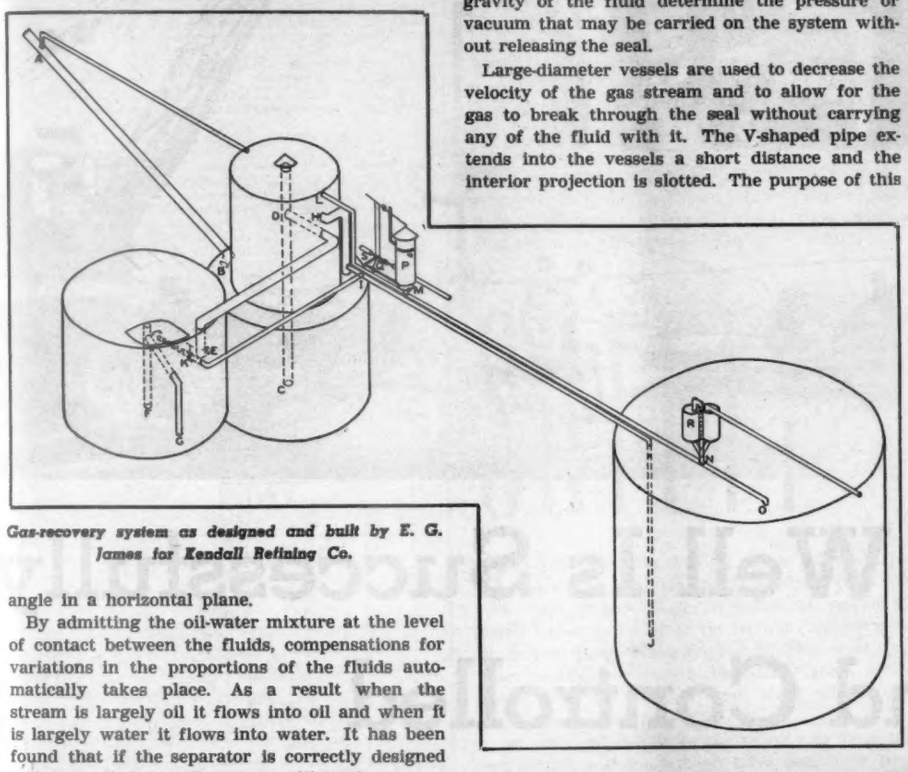
Oil in the separator rises to outlet *H* and thence flows by gravity through line *H-J* to the stock tank where it is discharged near the bottom of the tank. It is discharged at this point to minimize turbulence in the tank and to make it necessary for gas to pass through the entire body of oil before escaping. If any oil accumulates in the slop tank it is drawn off through a skimmer line *K* and enters line *H-J* at *I*.

Gas is gathered at three points in the system: At *A* where it enters the system from the lead line from the field, from the top of the separator at *L* and from the stock tank at *O*. All gas removed from the system passes through the gasometer *P* and through the quick-opening valve *Q*, which is regulated by the gasometer, to the main suction line.



Left: U-tube installed on gas line from stock tanks. Below: Double gas-recovery installation on Kendall Refining Co. lease at Bell's Camp

The point at which the oil-water mixture enters the separator is at the contact point between oil and water when the system is at rest. It will be noted that gas is removed from the main lead line before the oil-water mixture reaches the tank and at a point above the liquid level. This is done in order to prevent surging in the tank and thereby promote more efficient operation. The same purpose is served to some extent by admitting the mixture to the tank through a 45° angle in a horizontal plane.



Gas-recovery system as designed and built by E. G. James for Kendall Refining Co.

By admitting the oil-water mixture at the level of contact between the fluids, compensations for variations in the proportions of the fluids automatically takes place. As a result when the stream is largely oil it flows into oil and when it is largely water it flows into water. It has been found that if the separator is correctly designed and controlled it will operate efficiently on any oil-water mixture between the extremes of a solid stream of water to a solid stream of oil.

The critical feature of the system is the relationship between the length of the siphon line (*C-D*) and the difference between the levels of the water and oil outlets plus the resistance of the seal Simply, the relative positions of the water outlet (*D*) and the oil outlet (*H*) with respect to the length of the siphon line can be computed from the difference in the specific gravity of water and oil.

Both the overall height of the separator and the range of operating conditions are determined by the relationship between the water and oil outlets. The holding time necessary for complete separation of the fluids is the determining factor

The second or slop tank safeguards against the loss of oil in the event of a line plugging or freezing off. If the oil rundown line should become plugged, the separator would fill with oil until the oil ran out the water outlet. This oil would flow to the slop tank and would be accommodated to the limit of its capacity. A similar result would follow an increase in gas pressure sufficient to "upset" the system. In either event it allows more time for the pumper to discover and correct the condition without loss of oil.

Since either the pressure or vacuum carried on the system is a function of its operation, pressure and vacuum cannot exceed the limit of the operating range of the separator and the safe vacuum that may be carried on the stock tanks. They are controlled by the relief device or U-tube seal (*R*). The seal consists of two large-diameter vessels connected at the bottom with a V-shaped pipe. The vertical distance from the bottom of the vessels to the point of the V and the specific gravity of the fluid determine the pressure or vacuum that may be carried on the system without releasing the seal.

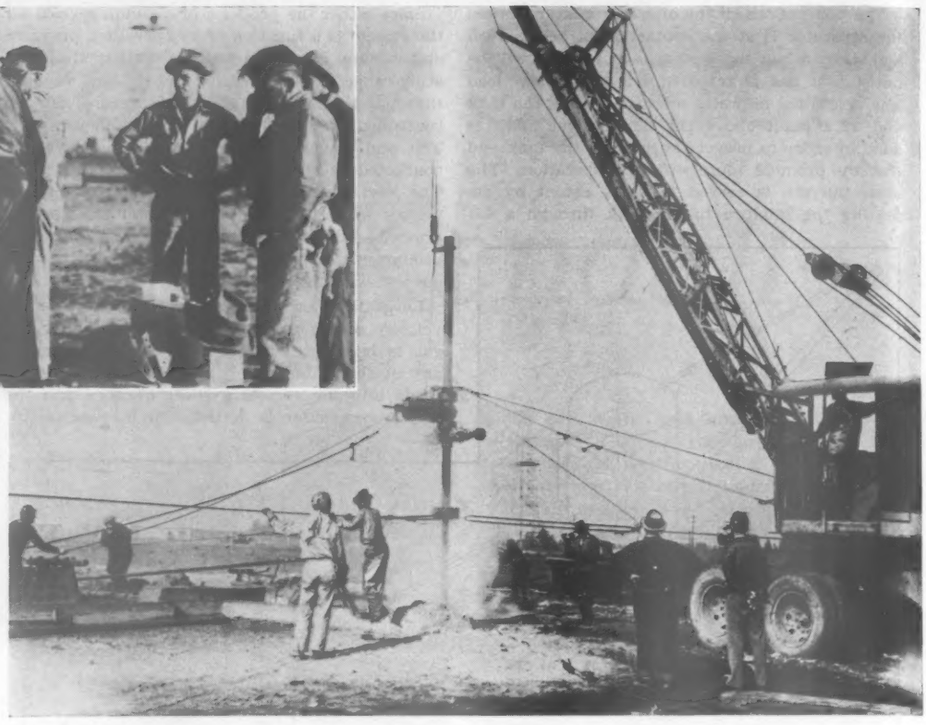
Large-diameter vessels are used to decrease the velocity of the gas stream and to allow for the gas to break through the seal without carrying any of the fluid with it. The V-shaped pipe extends into the vessels a short distance and the interior projection is slotted. The purpose of this arrangement is to allow the fluid to remain out of the path of the high-velocity gas until the pressure or vacuum returns to a safe limit. Then the fluid trickles back through the slots and again closes the seal. This is the safety valve.

Obviously the key to the successful operation of the entire system is very close and unfailing control of the gas pressures. Control of pressures is accomplished very satisfactorily in this system by a specially developed, balanced gasometer (*P*). This gasometer is sufficiently sensitive to operate successfully on a pressure or vacuum of as little as ¼ in. of kerosene.

Construction and operation of the gasometer may be described as follows: One piece of pipe is placed inside another of larger diameter. The smaller pipe extends below the bottom of the larger and the two are welded together at the lower end of the larger. A closed hood is constructed of such size that it may be raised or lowered in the annular space between the two pieces of pipe. The remainder of this space is filled with fluid which prevents escape of the gas except through a small hole in a lid welded on top of the smaller pipe. Gas enters the smaller pipe from the separator and stock tank, a minute portion escaping through the small opening. The hood rises and falls according to the pressure of this small stream and, through a system of levers, actuates a quick-opening valve which allows the gas to enter the main suction line.

On leases where a vacuum pump and gas-gathering system is used, the connection to the separator system is made at *S*. On those leases where there is no vacuum-gathering system, a second valve is installed between the field gas line and the suction line. This valve is also controlled by the gasometer lever but acts in opposition to the other valve so that when one is open the other is closed and vice versa. This provides a constant supply of gas to the engines pulling on the suction line regardless of whether the gas-recovery system is producing gas or not.

Top left: Gasometer on unit at Bell's Camp showing single valve installation. Top right: Gasometer with double valve control regulating gas supply from both field line and gas-recovery system to engines. Bottom: Close-up of one of the early installations showing separator at right and slop tank at left. Gas gathered here is controlled by gasometer



Above: Sam Firman, superintendent of Ohio Oil Co. for Los Angeles Basin, hooks up rigging on Roy Bean preparatory to approaching the well. Note use of football helmets to deaden the noise. Aviators' helmets were also used

Right: Snubbing specially fabricated packer and blowout control manifold assembly into well

By L. P. STOCKMAN

California Well Is Successfully Capped and Controlled

AFTER running wild for 6½ days, Ohio Oil Co.'s No. 12 Gough in the El Segundo field of Los Angeles Basin was brought under control after the flames had been extinguished and a 6-in. Cameron pressure-operated valve using 1,500 lb. pump pressure had been installed and the valve closed. The control work was done under supervision of Sam Firman, Los Angeles Basin superintendent of Ohio Oil Co., and Fred Smith, superintendent of the San Joaquin Valley operations of the same company, assisted by Roy Bean, California representative of Cameron Iron Works, Inc., of Houston. John McFadyen, vice president of Ohio Oil Co., was also active in control operations. This well got away from the crew at 1:15 p.m., January 13, during repressuring operations and was brought under complete control at 2:30 a.m. January 20 after the valve had been closed and the hole filled with 480 bbl. of 80-lb. mud. No. 12 Gough started off flowing about 50,000,000 cu. ft. of dry gas daily from a known gas zone located at 3,825-40 ft. and continued flowing at about this rate during the entire period although during the last few days the well began making water along with the gas. The well became ignited from friction or static electricity shortly after cutting out the fittings and burned for several days before the flame was snuffed out by the stack method and using steam.

No. 12 Gough was spudded April 3, 1938, and was completed May 30, 1938, flowing 780 bbl. of clean 25.5-gravity oil and 572,000 cu. ft. of gas per day from 7,411 ft. The hole is bottomed in basement schist as is customary in the El Segundo field and was finished with 93 ft. of 5-in. liner including 62 ft. of perforated landed on bottom. The casing record consisted of 1,117 ft. of 11¾-in. and 7,341 ft. of 6⅝-in. Top of the productive conglomerate was logged at 7,353 ft. and top of the schist basement was cored at 7,407 ft. The productive oil conglomerate in this field is found immediately on top of the basement so it has been customary to drill several feet into the schist before concluding drilling operations. Due to decreasing production of crude oil from the Gough lease, Ohio Oil Co. decided to use No. 12 Gough as an injection well as it was believed that injection of gas in this well would stimulate production of the other 11 wells on the Gough lease. Accordingly the dry gas from the known dry-gas zone was produced through the annular space between tubing and casing and injected down through the tubing into the oil zone. The productive conglomerate would not take any appreciable amount of dry gas under the gas-zone pressure of 1,400 lb. and this forced the company to install some compressors in order to build up sufficient pressure to cope with the situation. While injecting this dry gas into the productive conglomerate at approximately 3,000 lb. the tubing-head connections failed and permitted the well to get beyond control. Within a very few minutes, the large quantity of sharp gray sand that the well began making, cut out the remaining fittings and the well caught fire.

All surface equipment, including the steel derrick which buckled under the terrific heat and toppled over, was lost. Ohio Oil Co. has since started preparations to erect a new steel rig over the old hole and will proceed with its repressuring work. Within 48 hours after the well began blowing, the tubing dropped to the bottom of the hole and the well proceeded to cut out the packing in the casing head which threw the pressure against the 11¾-in. surface casing. The plug valve on the casing outlet cut out and thus permitted the well to flow through this side outlet as well as blowing vertically through the 6⅝-in. casing. The fire was extinguished without much difficulty but the condition of the hole presented a difficult problem to those in charge of control work. After the ground and equipment had cooled off sufficiently to permit an inspection, work began in earnest to bring the well under control.

It was first decided to remove the top flange of the casing head and a manifold was accordingly made with a flange to match the head and a 6-in 6,000-lb. pressure-operated valve with a 7-in. stack above it was incorporated in the unit. The manifold was tested to 3,000 lb. and after proving satisfactory was delivered to the well. In the meantime, the flange and packing in the casing head cut out and therefore attempts to make a flange-up job were abandoned. The flange on the control assembly was then removed and a packer was installed on the bottom in place of the flange but the pressure was too great to permit successful operation. To eliminate the possibility of further cutting of the casing head and landing base, a 10-in. stack was placed over the cellar connections and this remained in place until further work got under way. Several attempts were then made to get packers to set in the 6⅝-in. casing without success as the gas and sharp sand cut them to pieces within 5 minutes and before they could be stabbed inside the 6⅝-in. casing.

After several unsuccessful attempts to pack off the 6⅝-in. casing with standard packers, it was

BLOWOUT-CONTROL MANIFOLD ASSEMBLY

Specifications and description of material as shown on attached blue print:

A—Swivel guide plate 2-in. thick by 16-in. center, 7¼-in. bore with one 2-in. hole.

B—Stack 10 ft. long made of 7-in. o.d. 28-lb. Grade D casing.

C—Swivel tie-down plate 2-in. thick, 26-in. diameter, 7¼-in. bore with four 2-in. holes on 22-in. circle.

D—7 1/16-in. bore 6,000-lb. test double-flange model pressure-operated master gate valve with 6-in. Series 900 A.P.I. flanges.

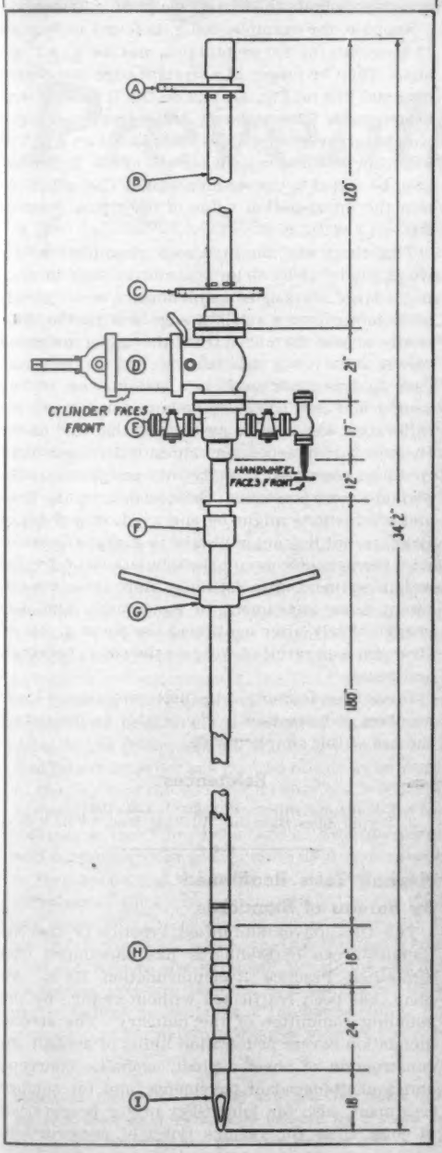
E—6-in. by 2-in. special mud cross with 6-in. Series 900 A.P.I. top flange and 4½-in. o.d. 10-thread female bottom connection with two 2-in. Series 1,500 A.P.I. flanged outlets equipped with 2-in. flanged plug valves and one 2-in. adjustable-flow bean assembly tested to 3,000 lb.
6⅝-in. o.d. 26-lb. 4½-in. o.d. 16.60-lb. 10-thread special packer, described as follows:

F—High-pressure stuffing box and gland assembly to effect seal between mandrel and outer sleeve.

G—Turning device with handle for rotation and setting of packer. This constructed as follows: made of forged steel ring, 12-in. diameter, 6-in. wide with bore to fit the 5 5/16-in. o.d. outer sleeve with two 2-in. solid bar handles, 2 ft. long, welded securely to the forged ring and to the outer sleeve.

H—The main part of the packer consists of a mandrel 20 ft. long overall made of 4½-in. o.d. 16.60-lb. Grade D drill pipe; and outer collapsing sleeve made of 5 5/16-in. o.d. 22.20-lb. grade D drill pipe, the outer sleeve and the mandrel threaded to engage each other with 5-thread left-hand washer being installed between the bottom of the outer jacket and top packer sleeve, the packer proper consisting of three 5½-in. o.d. neoprene rings securely wired to the mandrel and held in place by counter board thimbles.

I—4½-in. o.d. by 18-in. overall 16.60-lb. special blunt nose guide equipped with four openings as indicated on drawing.



decided to make a special packer assembly for this particular job. Accordingly a special packer was assembled with neoprene rings supplied by Security Engineering Co. Every precaution was taken to tie the rubbers in so that they would not blow out as had happened several times previously with standard packers. The main part of the packer consists of a mandrel comprising a joint of 4½-in. o.d. 16.60-lb., Grade D drill pipe and for the outer collapsing sleeve a joint of 5 5/16-in. o.d., 22.20-lb. drill pipe was used. The outer sleeve and the mandrel were then threaded to engage each other with a 5-thread Acme left-hand washer installed between the bottom of the outer jacket and top of the packer sleeve. The packer consisted of three 5½-in. o.d. neoprene rings securely wired to the mandrel and held in place by counterboard thimbles. The annular space between the outside of the 4½-in. mandrel and the inside of the 5 5/16-in. outer collapsing sleeve was filled with grease and a high-pressure stuffing box and gland assembly were used to effect a seal between the mandrel and sleeve. The 4½-in. mandrel and packer assembly, which included three packer rubbers, was approximately 20 ft. in length.

The specially constructed packer and control manifold assembly was delivered to the scene of operations on January 19 and, because plenty of clearance was allowed, the packer was set within 1 hour and the manifold was then securely tied down. Within 2 hours after delivery of this unit to the Gough lease, the 6-in. pressure-operated valve had been closed with 1,500-lb. pump pressure. The packer which had an outside diameter of 5½-in. was rigged up and snubbed into the 6⅝-in. casing with a minimum of trouble due to careful planning on the part of those in charge. In order to deaden the roar of the well, those working on the control problem wore football helmets and in some cases aviation helmets when working in close proximity to the casing head. Vaseline-saturated cotton was also used in the ears and goggles were used to protect the eyes. No. 12 Gough was the third well to blow out in the El Segundo field as a result of encountering the high-pressure gas zone. The El Segundo field was discovered by Republic Petroleum Co. August 23, 1935, the age of the productive zone is Miocene and the field has produced 8,821,553 bbl. up to January 1, 1940, indicating a minor field.

SAFETY - Guard Needed on Rotary Drive

ROTARY tables on drilling rigs are driven by a variety of methods including drive from the line shaft or jack shaft, an individual engine located beneath the floor or an individual engine connected direct to the drive shaft. The most common method, particularly in shallow areas, is the drive from the line or jack shaft with either roller chain or V-belts being used.

At one time the drive chains on rigs were left unguarded and many men have lost their lives through this one lack of proper safety equipment. There was the constant danger of a workman falling into the driving parts and being killed instantly. Reaching through or over the chain sometimes resulted in the entanglement of a loose piece of clothing with the result the workman was crushed between the sprocket and chain. But this wasn't the only danger as breakage of the chain often resulted in a great number of steel fragments flying in several directions. A man at some distance might be seriously injured by one of the missiles. To prevent such accidents, drilling crews began using boards and timbers for guards until the present method of using sheet steel for encasing the chains came into common use. An improvement in the construction and quality of the material used in the chains greatly reduced the breakage but the principal cause of avoidance of injury has been the installation of the guards.

Of recent years V-belts have come into use for various drives, including that of the rotary table. Principal cause of breakage of V-belts is the improper alignment of the sheaves, the steel literally cutting the belts. There is not the danger from flying parts but the end of the broken belt, as it flies off of the sprocket, could seriously injure a man if it struck him; there is also the constant danger of falling into the belts when they are not guarded.

Proper guarding of belts or chains has an important economic angle in addition to the safety of the men. Water on the belts, from rain or any other cause, will make them wear excessively and shorten their life. The life of the chain is reduced if it is exposed to dust and dirt and frequent wetting. Properly designed guards will protect these driving parts and insure them a long life as well as protecting the workmen.

A Reduction Chart for the Stormer Viscometer

By H. T. BYCK
Shell Development Co.

THE Stormer viscometer is now generally accepted as the standard instrument for laboratory and field measurement of the viscosity (apparent) of rotary drilling muds. As was pointed out by Loomis and others[1] the viscosity of a given mud fluid, measured with the Stormer instrument, varies with the speed of rotation of the cylinder in the sample cup, approaching more or less asymptotically to a constant value at high rotational speeds. An analysis of the possible sources of error, and of the curves of viscosity against speed of rotation, led to the conclusion that the smallest errors occur when the viscosity is determined at a rotor speed of 600 r.p.m., and it is now generally agreed that Stormer viscosities of muds will be measured at this standard speed.

The two possible variables in operating the Stormer viscometer are rotor speed and driving weight. By fixing the rotor speed at 600 r.p.m., the measurement consists in varying the driving weight by small amounts until the rotor speed is precisely 600 r.p.m. Since the instrument is provided with a revolution counter, one complete tour of which represents 100 revolutions of the rotor, it is customary to clock 100 revolutions with the stop watch, adjusting the driving weights until this occurs in exactly 10 seconds. The driving weight which produces this speed of rotation is converted into centipoise units by means of a calibration chart obtained by measuring on the same instrument a series of glycerin solutions of known viscosity.[2]

In making a large number of viscosity determinations, it becomes very time consuming to adjust the driving weights so as to obtain 100 revolutions in exactly 10 seconds. A rapid means of arriving at the weight for 10-second time by interpolating between values on either side of the correct value has been devised in the form of a reduction chart described below.

In practice, 100 revolutions (one tour of the counter) are clocked with two weights differing by 10, 20, or 30 g., such that the larger gives a time somewhat less than 10 seconds (not less than 8) while the smaller gives a time somewhat greater than 10 seconds (not greater than 12). Within this small range, it can be shown that the curve of driving weight against time for a given number of revolutions may be considered to be a straight line. Accordingly if the two readings are joined by a straight line on the chart, an accurate interpolation for 100 revolutions in 10 seconds is obtained.

On the chart (Fig. 1) there appears a vertical scale (B) on the extreme left, graduated in seconds and tenth seconds from 8 to 12 seconds. Opposite the 10-second mark is drawn a horizontal scale (A) graduated in grams. At the 10, 20, 30, and 40-g. marks, additional vertical scales (B_1, B_2, B_3, B_4) are drawn on the lower half of the chart and are graduated identically with the scale (B). The layout is such that the chart may be used over the entire range of weights, the smaller always being plotted on the B scale.

To use the chart, the time in seconds for 100 revolutions with the smaller of the two weights used is marked off on (B). The time in seconds for the larger weight is marked off on B_1, B_2, B_3, or B_4, depending upon the difference between the two weights. A straight line connecting the two points intersects the (A) scale at a value in grams which is to be added to the lesser of the two weights used, in order to obtain the correct weight for 10 seconds.

Suppose, for example, 200 g. is found to require 11.3 seconds for 100 revolutions, and 230 g., 8.7 seconds. Then by means of a straight edge (see dotted diagonal line on Fig. 1), 11.3 on the B scale is connected with 8.7 on the B_3 scale (representing a weight larger by 30 g. than that plotted on B). The intercept on the A scale is seen to be 15. This must then be added to the smaller weight (200 g.) to obtain the interpolation value of 600 r.p.m., namely $200 + 15 = 215$ g.

This chart was mounted on a piece of three-ply wood, 8½ by 11 by ¼ in. For convenience in making a large number of reductions, a small elastic band to serve as a straight edge was tacked diagonally across the chart from the upper left-hand corner to the lower right-hand corner. In the model used in this laboratory, two columns of driving weight and centipoise equivalents, taken from the calibration curve, were pasted at either end of the chart so that interpolated values of driving weight could be converted directly into centipoise units. Should a more permanent chart be desired, the lines and graduations might be engraved on a sheet of Bakelite, but it is not advisable to engrave or otherwise permanently mount the tabulations of driving weight against centipoise units, since these are different from instrument to instrument, and also change slowly after continued use for a given instrument as a result of wear on the rotor, bearings, and gears.

It has been found that the determination of large numbers of viscosities is appreciably facilitated by the use of this simple device.

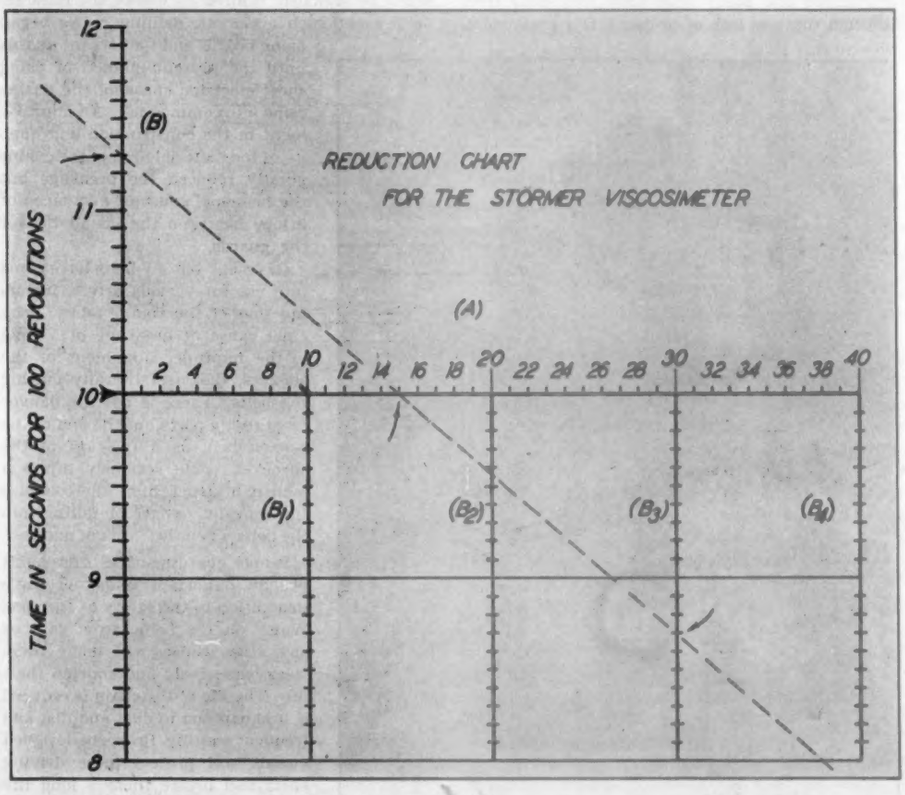


Fig. 1

References

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Right: Mud guns being used to agitate fluid to knock out gas. Agitation has an undesirable effect in that it will not permit cuttings to settle out. Above: Mud is partially degassed passing through fine-mesh vibrating screen

Degassing Drilling Fluid Prevents Blowouts

By HARRY F. SIMONS

MAINTENANCE of drilling fluid used in rotary drilling rigs is complicated by the many functions the mud must perform. The fluid was originally used to remove cuttings from the hole and keep the bit clean, and that is still its primary purpose. As the use of the rotary method spread, it became evident the drilling fluid must perform other tasks. These include creation of film on the walls of the hole, so that there will be no loss of mud through penetration into the formation, prevention of caving of the hole already drilled, and the elimination of danger of blowouts by providing a hydrostatic head sufficient to combat natural forces.

Blowouts are caused by the well bore encountering a gas-bearing formation having a greater pressure per square inch than the hydrostatic pressure of the drilling fluid. Pressures encountered increase with depth, but the height and weight of the fluid column also increases. If abnormally high pressures are encountered, the fluid column may not be sufficiently heavy to withstand them. The pressure in the sand is caused by the natural water drive in the formation, and in the Gulf Coast area it is generally equal to a column of salt water equal to the depth of the formation below sea level. This is due, it is believed, to the outcropping of the formations in the floor of the Gulf of Mexico. Abnormal pressures often occur due to hydrostatic heads in formations which outcrop much higher than the elevation of the surface of the ground where drilling operations are conducted. This is the case in an Oklahoma field, where the gas-bearing formation outcrops in the Arbuckle Mountains and the formation pressure is equal to a column of fresh water as high as the point of the outcropping. Explanation of formation pressures may be found in an article by Ralph L. Hook, The Oil and Gas Journal, August 25, 1938.

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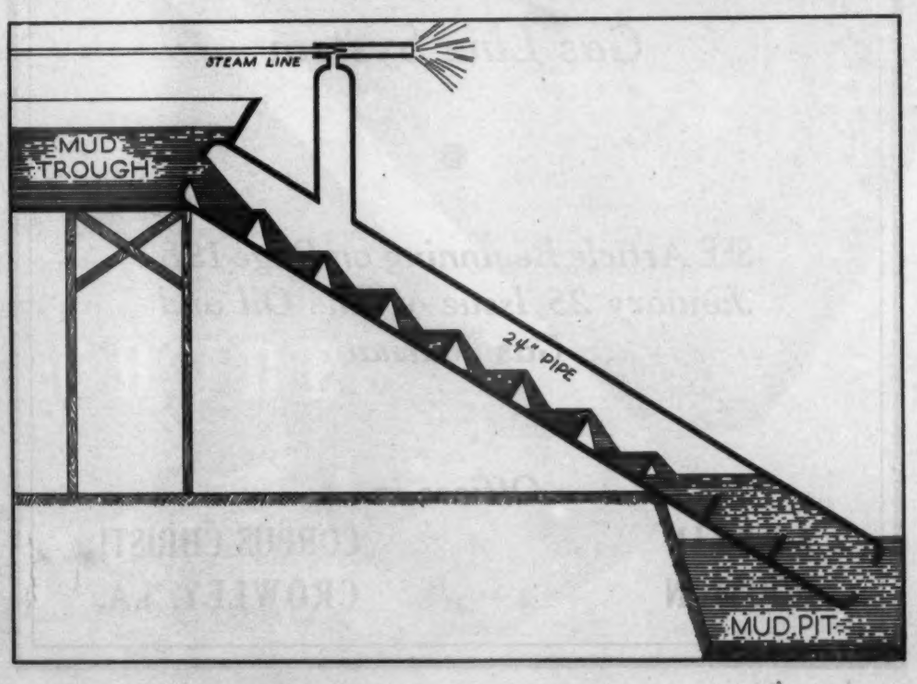

Schematic illustration showing how one Gulf Coast drilling contractor employs vacuum induced by a steam jet for removing the gas from drilling mud

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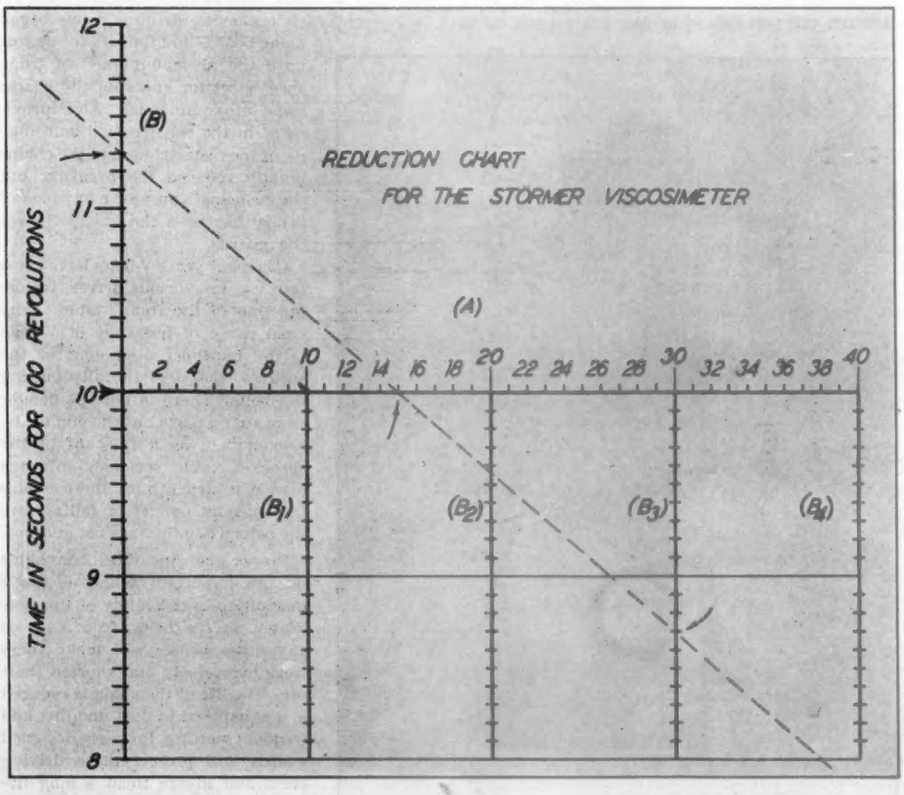

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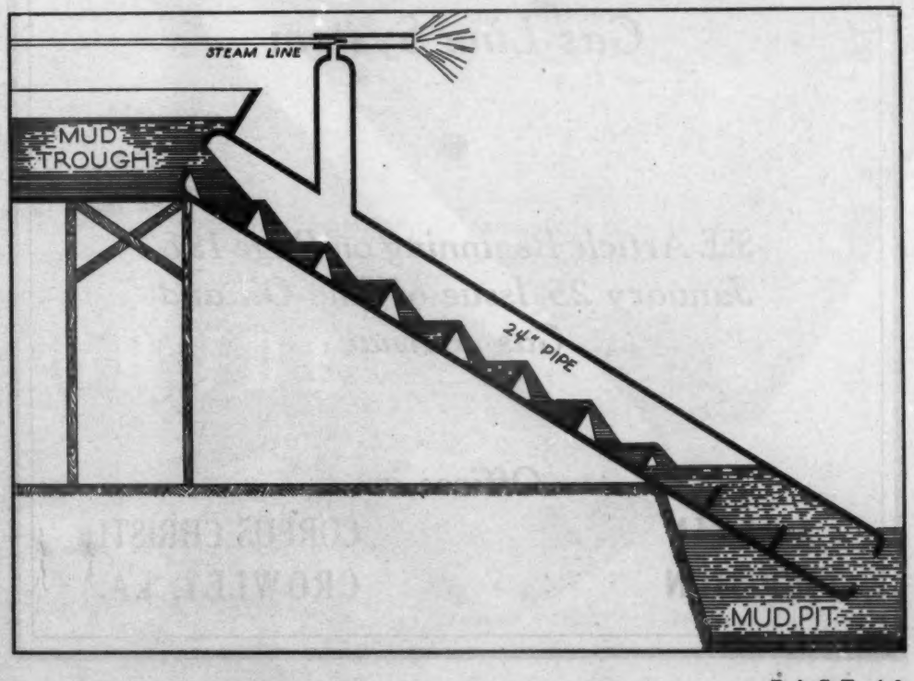

Schematic illustration showing how one Gulf Coast drilling contractor employs vacuum induced by a steam jet for removing the gas from drilling mud

tings in suspension reasonably well whenever the pumping of the fluid is discontinued.

Increasing the viscosity and gel strength brings on another danger which may defeat the operator in his efforts to prevent a blowout. This danger results from the entraining of gas in the drilling fluid with a consequent loss in weight. Gas encountered at 7,000 ft. under normal formation pressure would expand approximately 213 times on being brought to the surface where it weighs approximately 0.048 lb. per cu. ft. As the entrained gas increases, the weight of the drilling fluid decreases. When the entrained gas reaches 20 per cent by volume, a mud which should weigh 10.4 lb. per gal. actually weighs 8.32128 lb. per gal., or less than a gallon of fresh water. The normal pressure of the gas in the formation at 7,000 ft. would be approximately 3,122 lb. per sq. in. while the pressure of the gas-cut drilling fluid would be only 3,031 lb. per sq. in., a pressure differential of 91 lb. per sq. in., more than enough to start a blowout. Gas in amounts sufficient to cut the mud to the danger point seldom gets into the mud stream in a short period of time. The gas generally accumulates through recirculation of mud carrying entrained gas. Presence of gas in dangerous quantities in the mud may be readily detected through a decrease in the weight of the mud, the frothy appearance of the mud in the pits and the knocking of the mud pump. There are also methods of determining the gas content quantitatively.

For the past several years it has been the custom of drilling crews to "gun" the mud in the pits. The agitation due to gunning causes the gas to be eliminated. The agitation has an undesirable effect in that it does not permit settling of the cuttings.

Several mechanical aids are now used to degas the mud. One of these, the vibrating screen, is primarily for the separation of the cuttings from the mud, but the passage of the mud through the fine-mesh screen also removes some of the gas. On the Gulf Coast, an area in which the problem is particularly bothersome, two other methods have been introduced.

One method is to spray the mud 12 or 14 ft. in the air through jets, the breaking down of the mud allows the gas to escape. This method is also used to cool hot mud caused by contact with formations bearing hot salt water; it was introduced partially for that purpose.

Another method, developed by Louis Baker, superintendent for Glenn H. McCarthy, drilling contractor, utilizes a reduction in pressure to separate the gas from the mud. The apparatus consists of a 24-in. pipe with inside baffles. This apparatus is attached to the end of the trough or flow line. The reduction in pressure is accomplished by a steam jet on a small standpipe attached near the top of the pipe. The baffles increase the fluid surface exposed to the reduced pressure and also cause agitation of the mud. Ordinarily, only a light stream of steam is required through the jet to effect the reduction in pressure on the surface of the fluid. Placing the jet on a standpipe prevents picking up of the drilling fluid in case too much steam is freed through the jet.

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OIL FIELD *and* PIPE LINE CONSTRUCTION

Contractors on United Gas Pipe Line Company's New 18" Monroe-Jackson Gas Line System

SEE *Article Beginning on Page 198 January 25 Issue of The Oil and Gas Journal*

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BOOKS

TREATISE ON SEDIMENTATION. By William H. Twenhofel. 926 pp. Baltimore. Williams & Wilkins Co. $8.

This volume was prepared under the auspices of the Committee on Sedimentation, Division of Geology and Geography, National Academy of Research Council of the National Academy of Sciences. It is really a second edition of an earlier work, which was published 15 years ago, though the new book incorporates so many changes that it might be considered in the light of being new.

In his introduction the author points out that the study of sedimentary rocks has not kept pace with that of igneuos rocks. Study has been approached through the door of stratigraphy, but the methods of the sedimentationist and the stratigrapher are different—the latter studies sequences of sediments and endeavors to interpret the conditions under which they were deposited. The former studies the production of sediments and carries his conclusions into the interpretation of sequences.

THE CRACKING ART IN 1938. Edited by Gustav Egloff. 458 pp. Universal Oil Products Co. Booklet No. 239.

This report covers publications from January 1 to December 31, 1938, a period which, according to Dr. Egloff, brought more important achievements in the cracking art than perhaps any preceding 12-month period in the history of the industry. Among these achievements are:

Development of catalytic cracking.

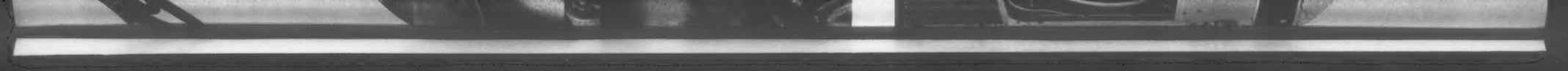
Development of midget catalytic polymerization units, which pay out in months instead of years.

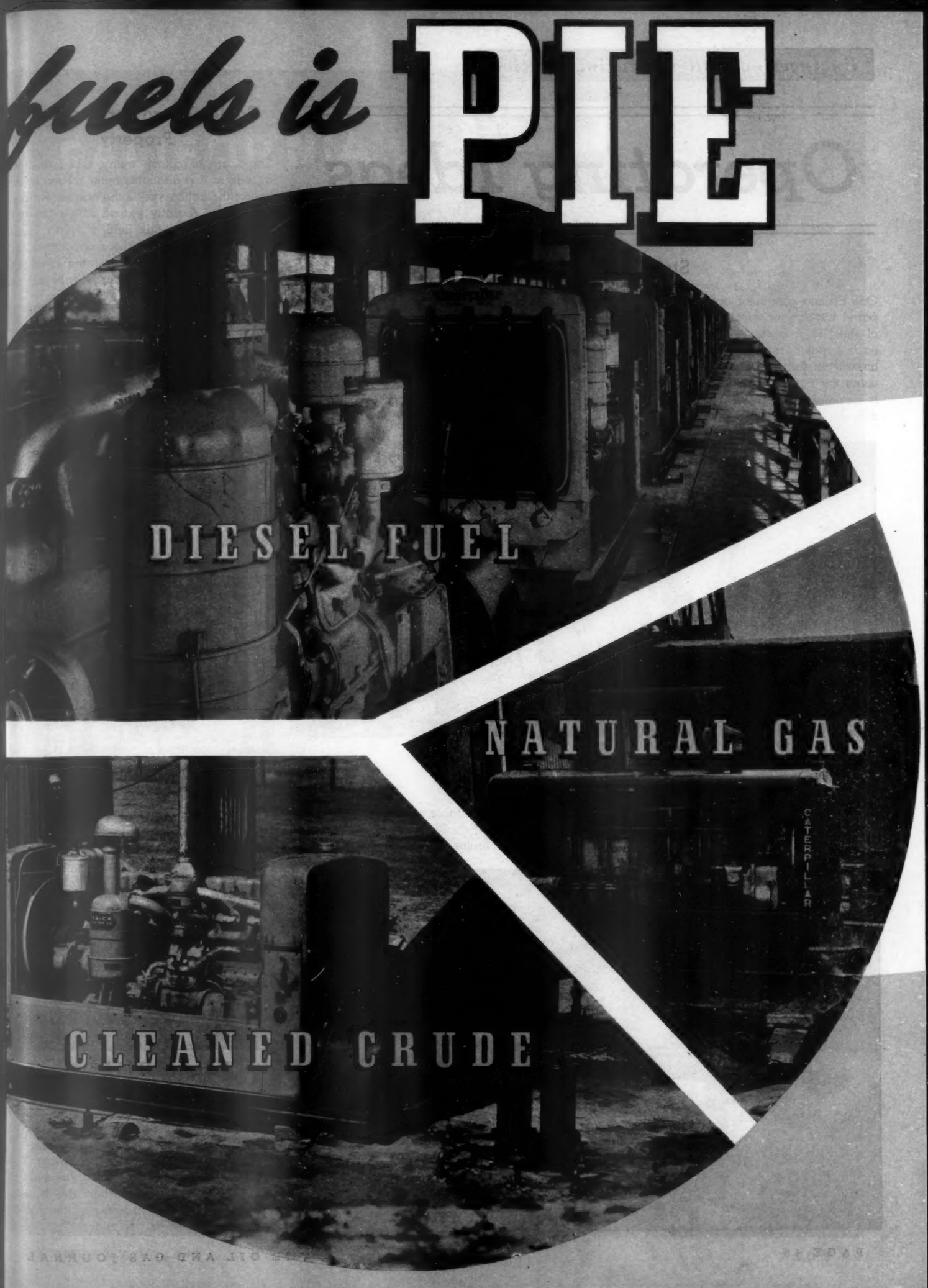
Development of isooctane units, which operate almost a year without change of catalyst on gases from cracking.

Development of catalytic alkylation units to the pilot plant stage for the production of branched paraffins from isobutane and olefins.

Production of synthetic glycerin by chlorination and hydrolysis of propylene from cracked gases at a price level competitive with glycerin from saponification of fats.

Hydraulic decoking of cracking-still reaction chambers.

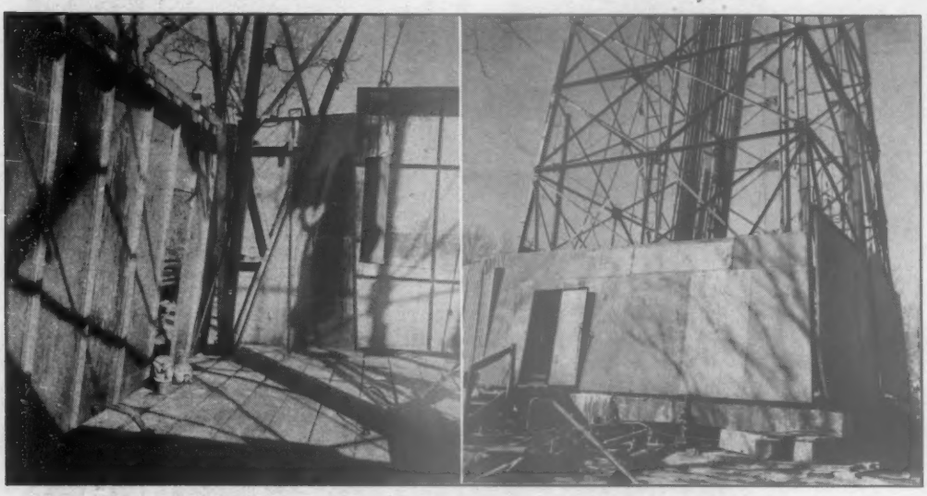



fuels is PIE
DIESEL FUEL
NATURAL GAS
CATERPILLAR
CLEANED CRUDE

Operating Ideas

Steel Housing for Derrick

One drilling contractor operating in the Walnut Bend field of Cooke County, Texas, has prepared his rigs for winter by completely housing the lower section of the derrick with panels of sheet steel fabricated from old tanks. The steel sheets are welded to angle-iron supports, each panel being fitted and designed to conform with its place on the derrick. The panels are suspended from the lower crossmembers by means of steel hooks welded to the panels, using the catline to raise them into position. On the side toward the pipe racks a wide door is suspended by a wire line so that it may be easily pushed to one side when desired. As derricks are skidded from location to location it is not necessary that the housing be removed.



Gear Mechanism for Valve

A Texas refinery has installed special equipment for operating a valve which includes an automobile rear-axle assembly with ring gear and pinion. A long shaft extends to the control room about 100 ft. away, where it can be turned by an operator for fast operation.

Cattle Guard for Producing Property

There are of course many types of cattle guards in use throughout the oil fields, but one of the better type is the one shown here which was recently placed in service at a lease in the Hull-Silk field of North Texas. This guard differs from the usual ones in that the pipe is laid in slots cut in the 12-in. casing, the portion of the casing not cut out

serving as spacers for the pipe. The pipe is held in place by rods run through the casing and over the pipe. Thus whenever the guard has served its purpose at this one location, it may be broken down and moved to another place or the pipe could be salvaged for other uses. If the guard had been welded, as is usually done, this would not be possible.

Polished-Rod Device

A device for combating trouble due to the pitting of polished rods has been installed by an operator in the Schuler field, Arkansas. This consists of connections which make it possible to have a small stream of water flow on the polished rod at the top of the stuffing box. Wells on properties where this is used pump large volumes of water at the rate of 30 strokes per minute.

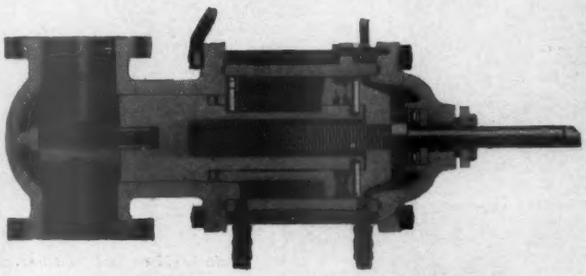
CALIFORNIA WILD WELL CAMERON-IZED!

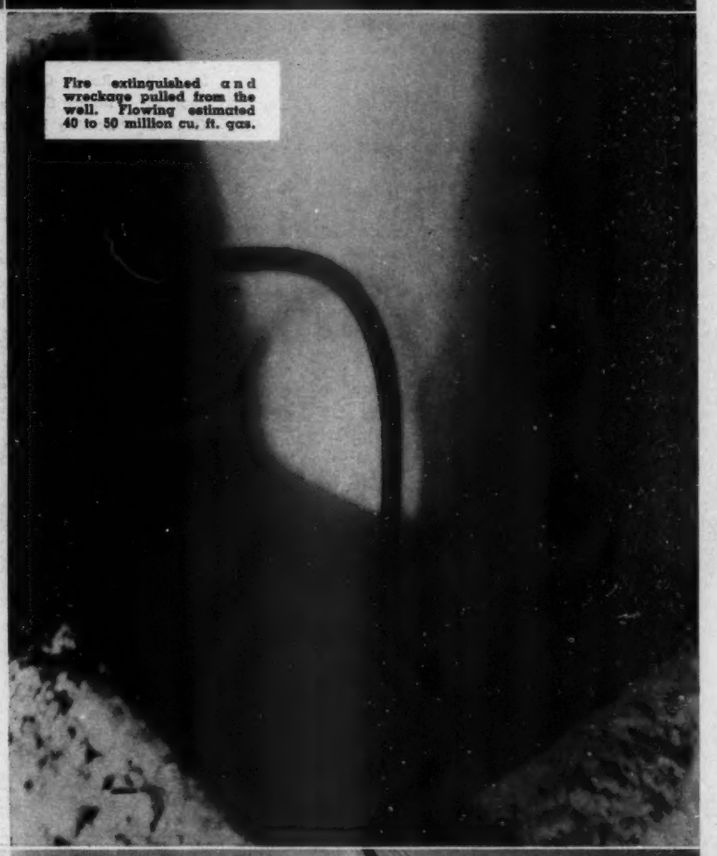
After blowing out, Gough No. 12 craters and burns for two days.

The obvious lesson to be drawn from the successful capping of Gough No. 12 in the El Segundo field is that equipment designed to withstand substantial cutting action and still seal tightly is worth whatever it costs in a capping manifold built to specific requirements. It is also obvious that men experienced in assembling and installing special manifolds quickly are indispensable factors in getting the job done promptly and satisfactorily.

It will be apparent to thoughtful operators that the same Cameron Control Unit which figured in the capping of Gough No. 12 may be relied upon implicitly to "LOCK THE BARN BEFORE THE HORSE RUNS AWAY."

BELOW: Cross-section view of a Cameron 6000 Lb. Test Pressure Operated Gate Valve clearly showing its unique design and construction. Fast, positive pressure closing eliminates risk to men and equipment. Note that there are no delicate sealing surfaces. The self-feeding ram packing effects a positive shut-off because the resilient packing "flows" to and seals any pits or roughness on the valve seat.





Fire extinguished and wreckage pulled from the well. Flowing estimated 40 to 50 million cu. ft. gas.

CAMERON IRON WORKS, INC.

711 Milby St. Houston, Texas

Export: 74 Trinity Place, New York, N. Y.
California Distributor: The Howard Supply Co., Los Angeles.
Oklahoma Representative: Paul Edkin, Tulsa.

Cameron Valve withstands cutting action of well flow for 2 hours and 5 minutes, then closes and seals perfectly.

8" Cameron 6000 Lb. Test Pressure Operated Gate Valve in a manifold being stabbed into the wild well.

METALS in DRILLING

Hard-Facing Materials

By W. L. NELSON

Last of a series discussing metals used in drilling operations. The author will appreciate suggestions concerning any of the usages that have been given—and will be particularly interested in materials that have been neglected. Other articles have appeared as follows:

Aug. 10	Portable Servicing Equipment
Aug. 24	Slush Pumps
Sept. 7	Rotary Chains
Sept. 28	Rotary Equipment
Oct. 5	Drilling Hoists
Oct. 19	Engine and Machine Castings
Nov. 2	Crown and Traveling Blocks
Nov. 16	Rotary Drill Bits
Nov. 30	Drill String and Casing
Dec. 14	Miscellaneous Equipment and Costs of Alloy Steels
Jan. 18	Hard-Facing Materials

A series of similar articles but pertaining to production operations will follow.

ALTHOUGH at least six types of hard-facing materials are used industrially, only the three hardest of these are used to any extent as the cutting-edge for oil-well bits.

Group 1—Alloy steels containing carbides. Less than 20 per cent of alloy elements.

Group 2—Alloy steels containing carbides. More than 20 per cent of alloy elements.

Group 3—Nonferrous alloys of cobalt, chromium and tungsten.

Group 4—Diamond substitutes. Fused tungsten carbides and certain metallic borides.

Group 5—Crushed metallic carbides.

Group 6—Black diamonds.

Groups 1 and 2 are essentially austenitic steels which contain relatively large amounts of carbon and such elements as chromium, manganese, tungsten, silicon, and molybdenum. These elements tend to cause the precipitation of the carbon in the steel, in the form of carbide particles which are exceedingly hard and wear resistant. Such steels retain their hardness even at a red heat and are very tough and shock resistant. The main usefulness of these alloys in oil drilling is as a binder or welding material for fastening the insert materials of Groups 4 and 5 into oil-well bits. Materials of this group are also used in hard-facing certain auxiliary oil-field equipment such as clutch jaws, ditch-digger blades, road-machine blades, and road scarifiers.

Group 3 is not used extensively but Groups 4 and 5 are the standard materials for the hard-facing of rotary fish-tail and drag bits. The diamond substitutes of Group 4 are used as small castings called inserts which are welded on the cutting edge of the bit in such a way as to form cutting teeth, whereas the crushed carbides of Group 5 may be used as steel tubes filled with the crushed carbides or as powdered materials which are fused to the surface of the object whose face is to be hardened. The carbide-filled tubes are applied by welding short lengths of the tube material to the bit; after a short time the tube wears away leaving the hard tungsten carbides as a cutting edge.

The crushed or powdered carbides of Group 5 are also used as hardeners for rock-bit cutters by puddling the base material of the bit with a carbon arc so that carbide particles are dispersed throughout the surface of the cutter. Electric and torch methods of welding are also used. In any case, a binding metal is necessary—but it can be worked up from the base metal or from ingredients which are already present in the hard-facing material.

With the exception of diamonds, the fused tungsten carbides (W C and W_2C) are the hardest and most wear resistant of the hard-facing materials. In most of the tradename diamond substitutes the amount of tungsten carbides is 90-95 per cent, the remaining being metallic cobalt, nickel, iron or similar elements used mainly as a binding agent. Chromium boride crystals and other less-known metallic borides are also extremely hard and are being recommended by some manufacturers. The boron or boride crystals are usually utilized with metallic nickel.

Diamonds (Group 6) are no longer widely used because of the cheapness of the diamond substitute materials listed as Groups 4 and 5. Black Brazilian diamonds outlast the diamond substitutes by many times but the cost is almost 30 times greater.

The relative characteristics of the groups are given by the International Acetylene Association in its bulletin "Hard Facing by the Oxyacetylene Process," [9] as:

Characteristic of deposit—	Effectiveness in decreasing order
Cold hardness*	6—4—5—2—3—1
Ability to scour*	6—5—4—2—3—1
Smoothness of deposit*	3—1—2—5—4—6
Red hardness	—4—5—3—2—1
Resistance to impact	—1—2—3—5—4
Corrosion resistance	6—3—2—1—4—5
Thinness of welding	—3—2—1—5—4

*Of primary interest in facing oil drills.

It will be noted that diamonds, diamond substitutes, and crushed carbides, the preferred materials, all rank high in the above table. Even the lack of smoothness is an advantage in facing such objects as oil-well bits.

The customary materials for the main bodies of

(Continued on Page 54)

Left: Weld on tool joint box absorbs much of wear on pipe while drilling. Above: Assembly of fishing tools for inside cutting job

FACING MATERIALS, INSERTS, AND RODS

Name of alloy—	Approximate composition, per cent— C	W	Cr	Mn	Ni	Others	Recommended uses:	References:
Diamite	3.25	...	1.5	.75	4.0	1.3 Si	Welding rod	30 Alloy No. 1224
Stoody self-hardening	(Mn, Cr, Si and Zr)						Welding rod	30 Alloy No. 1058
S.A.E. 6120	.2	...	1.0	.45	...	0.15 Va	Welding rod	30 Alloy No. 7769
Hascrome	...	...	12.0	4.0	...	...	Welding rod	30 Alloy No. 542b
Amsco No. 217	(Chromium molybdenum tungsten alloy)						Welding rod	30 Alloy No. 7047
Manganal	.75	...	...	12.5	3.0		Welding rod	30 Alloy No. 6083
Stellite No. 6	...	4.0	28.0	...	...	65 Co	Welding rod	30 Alloy No. 1616
Amsco	.85	...	...	14.0	4.0	1.05 Si	Surfacing or filler	30 Alloy No. 4492
Cristite	3.5	17	10	...	...	2.5 Mo	Surfacing or filler	30 Alloy No. 353a
Cristite	3.0	17	12	(.75 Ti)	(.25 Hf)	2.0 Mo	Surfacing or filler	30 Alloy No. 353b
Cristite	3.0	...	16	(.8 Ti)	6.0	0.28 Hf	Surfacing or filler	30 Alloy No. 353c
Hascrome	...	...	55	3.5	...	...	Filler for irregularities	30 Alloy No. 542a
Stoodite	4.0	...	32.8	1.2	0.2	1.4 Co	Surfacing or filler	30 Alloy No. 1057
Stellite No. 12	...	8	32	...	...	55 Co	Hard facing	30 Alloy No. 1618
Stellite No. 1	2.5	12	30	...	...	48 Co	Hard facing	30 Alloy No. 1612
Arkite	2.5	16	30	(4 Mo)	10	30 Co	High speed tool steel	30 Alloy No. 134
Blackor	9	87	(Tungsten carbides)				Hard facing	30 Alloy No. 197
Borium	(Tungsten carbides)						Hard facing	30 Alloy No. 1225
Borode	(Tungsten carbides)						Hard facing	30 Alloy No. 1226
Haystellite	(Tungsten carbides)						Hard facing	30 Alloy No. 546
Carboloy	(Tungsten carbides) (6% Co)						Hard facing	30 Alloy No. 246
Armide	(Tantalum carbides)						Tools and cutters	30 Alloy No. 136
Colmonoy	(Metallic borides cemented with nickel)						Tools and cutters	Colmony Co. Bulletin
Diamonds	(Black Brazilian diamonds)						Tools and cutters	32
Manganese steel	.45	...	...	1.75	...	...	Bit bodies	31
Manganese steel	.30	...	...	1.2	...	...	Bit bodies	31
Manganese steel	.40	...	...	.7	...	...	Bit bodies	31
Manganese steel	.24	...	...	.4	...	...	Bit bodies	31
Chromium manganese	.45	...	.6	.6	...	...	Bit bodies	31
Hadfields manganese	1.15	...	...	12.5	...	0.6 Si	Bit bodies	34
Silicon molybdenum	.4	...	(1 Si)	.45	...	0.5 Mo	Bit bodies	6
Carbon molybdenum	.3	...	...	.7	...	0.22 Mo	Bit bodies	11

MACHINING . . . UNDER RIGID INSPECTION
CONTROL . . . BY SKILLED MECHANICS

ANOTHER REASON WHY

REED ROCK BITS

DRILL FASTER
STRAIGHTER
FULL GAUGE HOLE

BIT COMPANY

MAIN OFFICE AND PLANT:
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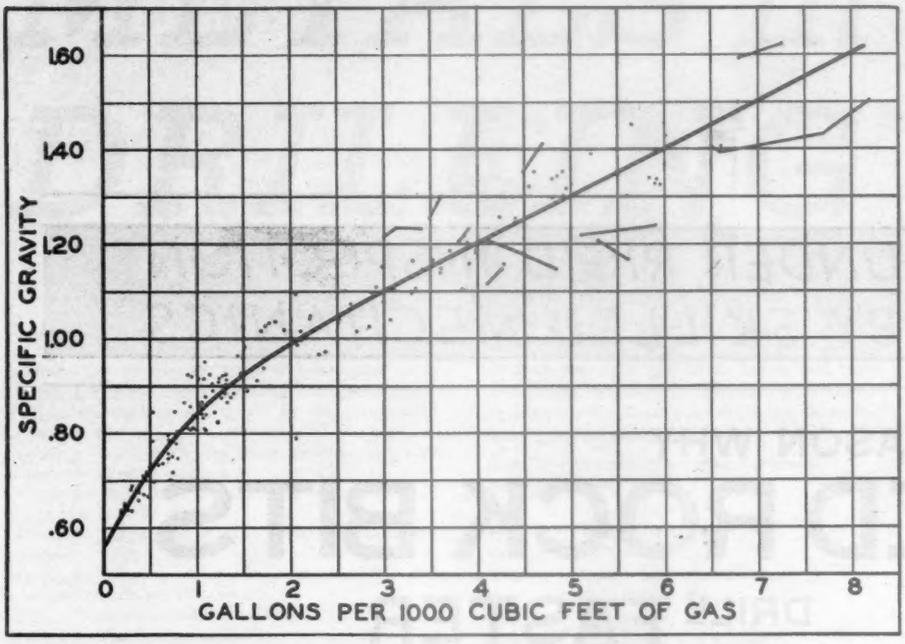

Chart based upon 150 gas tests showing relationship between gas specific gravity and quantity of recoverable natural gasoline. The lines connect determinations made on gas coming from the same well in each case

Suggest Correlation of Gas Gravity and Gasoline Content

By K. DAVISON
Warren Petroleum Corp.

As a result of a series of tests made throughout the past 12 months there is indicated a close relationship between the gasoline content of natural or casinghead gas and the specific gravity of the same gas. These tests were performed to arrive at a purchase price of natural gas entering six Mid-Continent gasoline plants. The group of tests represents a cross-section of natural gases in this area.

The pressure at time of test ranged from atmospheric to 350 lb. per sq. in. gage and the temperature from 0° F. to 100° F. The gasoline content was determined by the charcoal adsorption method for gasoline content of 1 gal. or less per 1,000 cu. ft. of gas and the compression method was used for gasoline of more than 1 gal. per 1,000 cu. ft. of gas. The specific gravity was determined by an Edwards type specific-gravity balance.

Natural gas is composed essentially of hydrocarbons of the paraffin group, of which methane, CH_4, is the simplest member. The chemical properties of the paraffins are, in general, the same, whereas, with an increase in the number of the carbon atoms there is a gradual change in the physical properties. The first four members of the group, namely, methane, ethane, propane, and butane are gases under ordinary conditions; from pentane to hexadecane they are liquids, and the compounds containing more than 16 carbon atoms are solids. As the size of the molecule is increased the boiling points of the hydrocarbons rise. Therefore, the higher molecular weight hydrocarbons are more readily condensed when the pressure is increased and the temperature lowered. As shown in Table 1, the hydrocarbons which compose gasoline have higher molecular weights and specific gravities than those which are gases at ordinary conditions. Hence, the specific gravity of natural gas should increase with gasoline content. The presence of certain gases such as carbon dioxide, air, nitrogen or hydrogen sufide will increase the specific gravity without due increase in gasoline content. A low specific gravity indicates the absence of gasoline.

TABLE 1—SPECIFIC GRAVITY OF CONSTITUENTS OF NATURAL GAS

(Air =1)		
Principal constituents of natural gas	Methane	.554
	Ethane	1.038
	Propane	1.522
	Butane	2.006
Principal constituents of natural gasoline	Pentane	2.491
	Hexane	2.975
	Heptane	3.459
	Octane	3.944
	Nitrogen	.967
	CO_2	1.520
	H_2S	1.177

An interesting fact noted is that the gas-oil ratio of the well producing the gas has an effect on the specific-gravity–gallons per thousand relation. Those wells having high gas-oil ratios give a higher specific gravity for a given gasoline content. This probably is due to a larger percentage of propane and butane than would ordinarily be present; this would increase the specific gravity without increasing the gasoline content. Those wells producing with a low gas-oil ratio show lower specific gravity for a given gasoline content; this is probably due to a larger percentage of pentane plus and less propane and butane. Most of the high gas-oil-ratio wells when tested were at a higher pressure than the average for the group tests; the low gas-oil-ratio wells were tested at a lower-than-average pressure. This indicates that the pressure also has an effect upon the specific-gravity–gasoline-content relation. Perhaps the combination of pressure and the gas-oil ratio brings about the effect. However, the gas-oil ratio will affect the relation alone. In the Fairbanks, Texas, field, where 150 tests were performed at a pressure 33 lb. per sq. in. gage, the gas-oil ratio materially affected relation.

On the graph which represents the results of the tests several points are connected with others by lines. These lines connect points determined by tests on the same well run at different times. This shows that, in general, a high or low gas-oil-ratio well will give a test of respectively higher or lower specific gravity for a given gasoline content.

From the graph the gasoline content versus specific gravity or natural gas is as follows:

TABLE 2

Specific gravity—	Gasoline content (g.p.M.)
0.56	None
.72	.50
.83	1.00
.99	2.00
1.10	3.00
1.20	4.00
1.30	5.00
1.40	6.00
1.50	7.00
1.60	8.00

This relation is helpful to gas testers or others interested in these qualities of natural gas. If all of the factors are considered, the gasoline content may be fairly accurately estimated by specific gravity, or the specific gravity may be estimated from the gasoline content.

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Metals in Drilling

Hard-Facing Materials

(Continued from Page 50)

fishtail bits, dragbits, etc., upon which the insert or facing material is laid, are tough, shock-resistant low-manganese steels, examples of which are given in the table. These steels are usually normalized after forging and then normalized again after hard-facing.

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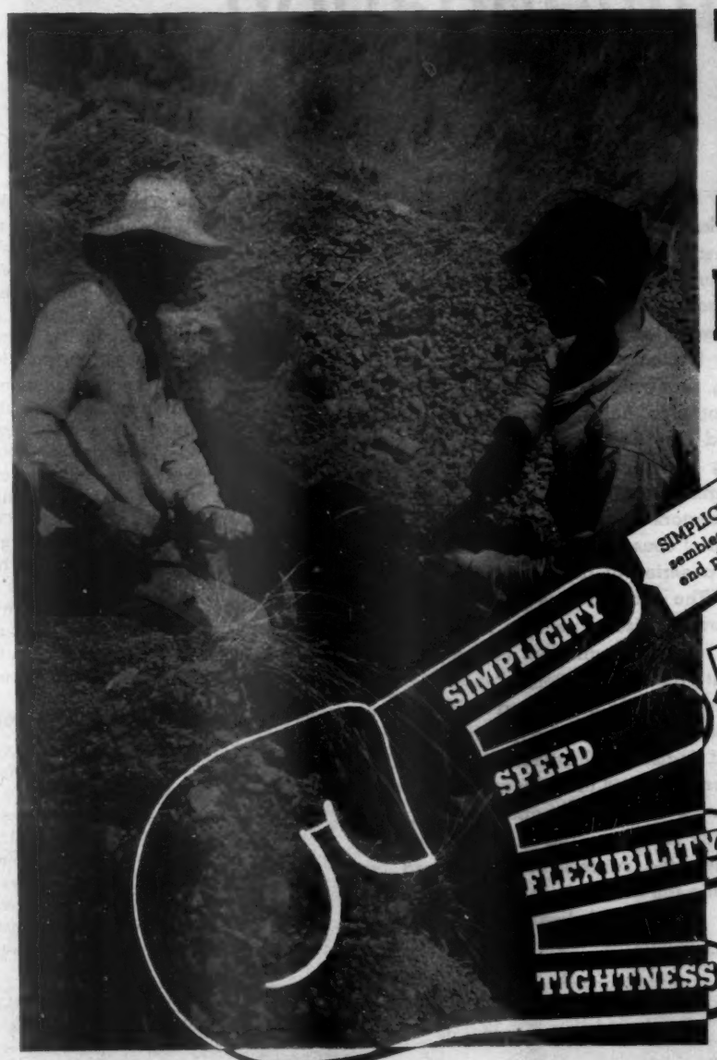
LOOK FOR ALL FOUR

before you decide



SIMPLICITY—unskilled labor assembles standard parts on plain end pipe, using only a wrench.

SPEED—typical examples: 5 minutes for 8"; 8 minutes for 14"; 12 minutes for 20" (two workmen).

FLEXIBILITY—expansion and other pipe movements absorbed; curves with straight pipe.

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ALEX M. CROWELL

A. M. (Alex) Crowell has been director of the Arkansas Oil and Gas Commission since the present organization was perfected a year ago following the passage by the legislature of what is conceded to be one of the best conservation measures now in effect among the oil states.

His previous training had given Mr. Crowell an excellent background with which to administer the application of the act through the authority granted the commission. He was connected as an engineer with the Shamrock Oil & Gas Co. for several years and accepted his present position while employed by the oil conservation department of Texas Railroad Commission.

Arkansas' Conservation Program Attracts Wide Commendation

By ALEX M. CROWELL

PART 1

Arkansas has made great strides in the past year in the conservation of petroleum. Use of the optimum daily rate of production as a basis for determining allowables, unit operation of oil pools by implementation, method of allocating production to wells and leases in controlled fields, operation of the Oil and Gas Commission as an engineering body, and the acceptance of the commission's policy by the public and operators have all attracted the attention of conservationists. In this, the first of a series of three articles, prepared for The Oil and Gas Journal by A. M. Crowell, director of the Arkansas Oil and Gas Commission, reviews the recent production history of the state. The second article includes a field and exploratory map of the productive area and deals with the method of regulating operations and the allocation of production for each month and the third continues the discussion of allocations and shows the success of the method by giving the detailed production history of the state's leading fields.

THE statute under which oil conservation is administration in Arkansas at present was passed February 20, 1939, and since that time Arkansas has attracted increasing attention because of the satisfactory operation of its regulatory machinery. Production distribution is based on the findings of the Oil and Gas Commission which acts as an engineering body and all of its agents are qualified petroleum and natural-gas engineers.

Permission to publish this article was given the author by the members of the Arkansas Oil and Gas Commission, who are O. C. Bailey, chairman; J. D. Reynolds, Ed Hollyfield, Robert J. Short, L. A. Longino, Basil Hoag, and Edwin B. Keith, for the reason that widespread interest is indicated in the operation of Arkansas' conservation and proration methods by the many inquiries which have been received concerning them.

The kindness of Mr. Bailey, chairman of the commission, is gratefully acknowledged for permission to use freely from an unpublished article of his on the subject matter.

It was necessary to use estimated production figures for the month of December 1939, based upon allowables in the controlled fields and past performance in the settled fields. It was also necessary to interpolate ending bottom-hole pressures for the month of December from the control charts, as they are illustrated, and to follow the same procedure in obtaining pressure changes during the shutdown period of last August.

The reserve figures used are based upon the best information available concerning connate water, porosity, shrinkage factors, recovery factors, and probable areal extent in the controlled fields and from carefully drawn decline curves in the settled fields.

It is my desire to make it plain that this is merely a progress report and does not reflect any fixed policy of the commission. By that I mean there may be changes in proration formulas, spacing requirements, etc. That there will be, as indicated by the fact that new gas-distillate production was discovered during the year 1939, which, no doubt, will require different handling from the other fields. The engineers of the commission are now engaged in exhaustive field tests concerning the use of practical productivity indices, which may also have some bearing on proration methods.

Exploration for and exploitation of lime structures continued unabated during the year 1939 in South Arkansas, although without the success which marked 1937 and 1938. A total of 12 geophysical prospects was drilled to the lime, resulting in the opening of two new lime pools, Dorcheat and Big Creek of Columbia County, and one or both of these may be classed as gas-distillate, depending upon information gained by future development. One other new pool was opened in the Glen Rose formation, Lewisville of Lafayette County, and there is a possibility that three new gas structures may produce from tests drilled in Faulkner, Nevada, and Ouachita counties.

Extensive Exploration

Approximately 28 geopnysical crews explored for new and rechecked old lime prospects over the majority of the area covered by 16 adjacent counties. The year ended with 30 known highs to be drilled, 12 in Union, 10 in Columbia, 4 in Lafayette, and 1 each in Calhoun, Miller, Nevada, and Ouachita counties. The greater part of these prospects should be tested over the year, as more than 40 drilling blocks were taken in 1939.

Daily average production continued its steady

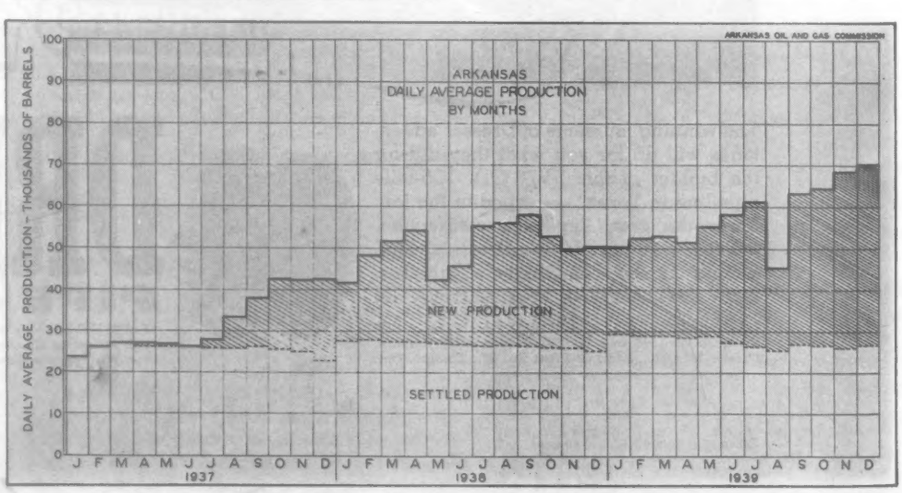
ARKANSAS OIL AND GAS COMMISSION
ARKANSAS
DAILY AVERAGE PRODUCTION
BY MONTHS
DAILY AVERAGE PRODUCTION - THOUSANDS OF BARRELS
NEW PRODUCTION
SETTLED PRODUCTION
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1937
1938
1939

Chart 1—Daily average production by months

TABLE 1—OIL PRODUCTION

Year—	Ending wells	Yearly bbl.	Daily bbl.	Dly. increase
1936	2,636	10,100,000	28,000	...
1937	2,622	11,700,000	32,000	4,000
1938	2,830	18,400,000	50,400	18,400
1939	3,000	21,150,000	58,000	*7,600

*Production restricted, proration law in effect. See Chart 1 for daily average figures by months.

TABLE 2—FIELD ACTIVITIES—WELLS

Year—	Drilled	Oil	Gas	Dry
1936	89	24	5	60
1937	163	95	1	67
1938	250	203	3	44
1939	220	174	4	*42

*Wider spacing, proration law in effect. See Chart 2 for daily average figures by months.

TABLE 3—OIL RESERVES

Year—	Total reserves—bbl.	Change
1936*	87,493,000	
1937	91,036,000	
1938	187,512,000	
1939	300,036,000	Up 243%

*American Petroleum Institute, others by commission.

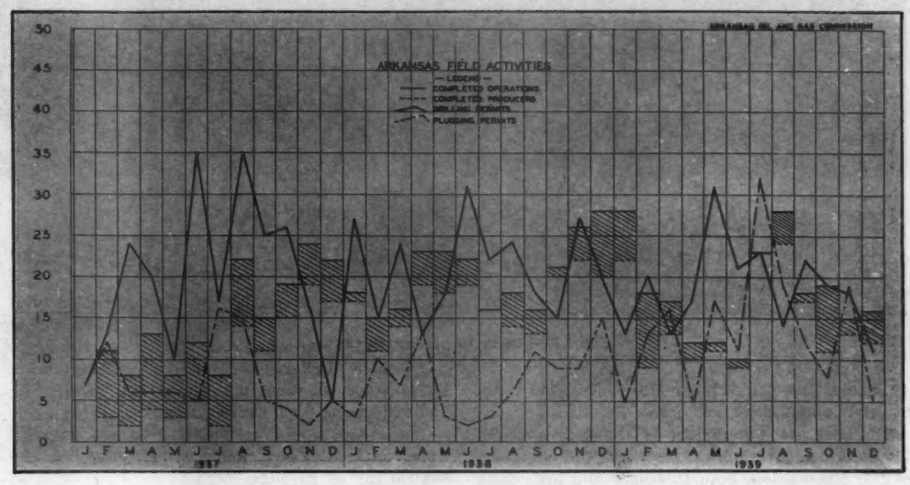

Chart 2—Daily average field activities by months

TABLE 4—PRODUCTION COMPARISON 1938-1939—SETTLED FIELDS

Field or pool—	Production in barrels *1938	1939	Increase	Decrease
Bradley	0	0	.....	.....
Camden	910	777	.....	113
Champagnolle	454,115	552,558	98,443	.....
El Dorado East	146,280	120,735	.....	25,545
El Dorado South	524,230	476,371	.....	47,859
Falcon	136	0	.....	136
Garland City	135,995	76,666	.....	59,329
Irma—Troy	672,150	637,978	.....	34,172
Lisbon	98,080	82,312	.....	15,768
Mount Holly	.....	0	.....	.....
Rodessa	2,436,140	1,365,804	.....	1,070,336
Schuler—Morgan	636,744	318,950	.....	317,794
Smackover and Snow Hill	6,543,205	5,898,902	.....	644,303
Stephens	201,795	188,904	.....	12,891
Urbana	433,205	375,310	.....	57,895
Preliminary total	12,282,985	10,095,267	98,443	2,286,161
FLOWING WELLS				
Atlanta	1,938	88,202	86,264	.....
Buckner	330,001	663,189	333,188	.....
Dorcheat	0	42,823	42,823	.....
Lewisville	0	144,603	144,603	.....
Magnolia	128,323	3,718,384	3,590,061	.....
Schuler—Jones	5,226,308	5,206,184	.....	20,214
Schuler—Reynolds	428,782	890,548	461,766	.....
Village	66,146	303,344	237,198	.....
	6,181,588	11,057,277	4,895,903	20,214
Total	18,464,573	21,152,544		

*A.I.M.E. for 1938, others from commission records.

TABLE 5—PRODUCTION AND RESERVES BY FIELDS

OIL

Field or pool—	Location, county—	Discovery date	Approximate depth (ft.)	Producing wells	Thousand barrels—Production	Reserves
Smackover	Ouachita and Union	7-22	2,000–2,800	1,788	378,144	50,325
El Dorado	Union	1-21	2,000–3,400	260	56,721	5,015
Champagnolle	Union	6-27	2,800–3,350	80	14,166	1,030
Garland City	Miller	7-30	2,800–4,200	16	1,819	335
Irma—Tray	Nevada	10-21	1,200	100	7,802	900
Lisbon	Union	12-25	2,100	145	6,620	400
Rodessa	Miller	6-37	5,600–6,300	78	5,037	5,000
Stephens	Columbia	6-22	1,500–2,300	200	6,352	1,826
Urbana	Union	12-29	3,600	31	4,914	1,400
Schuler-Morgan	Union	4-37	5,500–5,900	11	1,815	3,575
Total—settled fields				2,709	483,390	69,806
Atlanta	Columbia	12-38	8,900	5	90	2,150
Big Creek	Columbia	12-39	9,000	1	.....	.....
Buckner	Columbia and Lafayette	11-37	7,300	19	1,015	6,200
Dorcheat	Columbia	5-39	8,900	3	43	4,140
Lewisville	Lafayette	4-39	3,300	12	145	860
Magnolia	Columbia	3-38	7,600	82	3,847	176,800
Schuler-Jones	Union	9-37	7,500	142	10,778	29,700
Schuler-Reynolds	Union	10-37	7,700	16	1,353	6,900
Village	Columbia	5-38	7,500	11	369	3,480
Total—flowing fields				291	17,640	230,230
State total				3,000	501,030	300,036

GAS

Field or pool—	Location, county—	Discovery date	Approximate depth (ft.)	Producing wells	Billions cubic feet—Production	Reserves
Mansfield	Sebastian	1901	1,500	14	.....	.....
Mazzard	Sebastian	1906	1,400	50	.....	2
Kibler	Crawford	1915	2,500	19	22	4
Williams	Crawford	1918	2,500	40	40	10
Sec. 10	Crawford	1920	2,600	4	1	1
Alma	Crawford	1922	2,800	12	13.5	1.5
Alma—East	Crawford	1926	2,600	6	1.75	.25
Clarksville	Johnson	1926	2,900	11	9	26
Shibley	Crawford	1926	1,300	6	.75	.5
Greenwood	Crawford	1927	750	5	.....	.25
Lavaca	Sebastian	1929	3,000	15	2	10
Coal	Johnson	1929	2,000–6,000	2	.25	1
Tates Island	Pope	1929	1,200	3	1	6
Ozark	Franklin	1930	3,700	5	2	18
Vesta	Franklin	1932	2,500	11	1.5	3.5
Beverly	Sebastian	1937	2,600	2	.....	18

climb begun the middle of 1937, averaging 70,294 bbl. a day in December 1939, as compared with 50,352 bbl. a day the same month in 1938, 42,708 bbl. in 1937, and the all-time low of 23,000 bbl. in December of 1936. (See Chart 1.)

Yearly production increased some 2,688,000 bbl. over 1938. All of the old fields showed a decrease with the exception of Champagnolle, or Rainbow, where some new drilling occurred, and all of the new fields showed an increase with the exception of the Jones pool of the Schuler field. Two hundred and twenty tests were drilled throughout the year, both near production and in wildcat territory, resulting in 174 oil wells, 4 gas wells, and 42 dry holes.

The producing acreage of all of the flowing pools was extended as follows: Atlanta, 160 acres, 4 wells; Buckner, 400 acres, 10 wells; Dorcheat, 120 acres, 3 wells; Lewisville, 400 acres, 12 wells; Magnolia, 2,880 acres, 73 wells; Schuler (Jones),

TABLE 6—DAILY AVERAGE GAS SUMMARY—1939

(Only gas reported to commission)

Gas reservoirs	23
Number gas wells producing oil or condensate	9
Barrels produced daily	6

Dry-Gas Production and Disposition

Producing gas wells	203	
	M.c.f.	Pct.
Sweet dry gas produced	15,947	
To pipe line for fuel and light purposes	11,349	71.17
To lease operation—drilling	7	.04
To gasoline plants	4,591	28.79

Casing-Head Production and Disposition

Wells reported	567	
	M.c.f.	Pct.
Total casing-head gas reported	33,029	
To pipe lines for fuel and light	5,495	16.64
To lease operation and drilling	760	2.30
To gasoline plants	26,774	81.06

Gasoline-Plant Operations

Number of plants	5
Dry-gas wells connected	9
Casing-head wells connected (oil wells)	465
	M.c.f.
Sweet dry gas	4,591
Casing-head gas	26,774
	Gal.
Gasoline recovered—daily production	40,216
Gasoline recovered—per M cubic feet	1.30

Disposition of Gasoline-Plant Residue

	M.c.f	Pct.
Extraction loss	2,832	9.03
To pipe lines for light and fuel	4,294	13.69
Plant fuel, lease operation drilling	7,944	25.33
Vented to air	16,295	51.95

Ultimate Gas Distribution

(Includes all gas processed as reported in this state)

	M.c.f.	Pct.
Extraction loss in gasoline plants	2,832	5.78
To pipe lines for light and fuel	21,138	23.17
Plant fuel—lease operations	8,711	17.78
Vented to air	16,295	33.27
Grand total—daily	48,976	

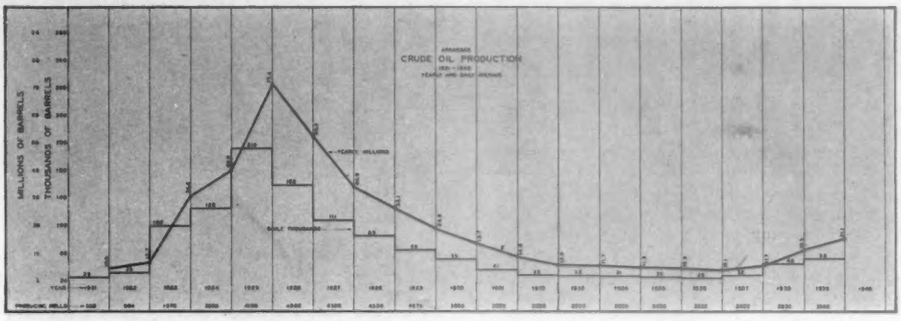

Chart 3—History of production chart

460 acres, 23 wells; Schuler (Reynolds), 240 acres. 6 wells; and Village, 280 acres, 7 wells.

The real accomplishment of the year was the increase in recoverable-oil reserves. The engineers of the commission, both this year and last, drew decline curves based on the estimated economic limit of all of the old settled fields and computed volumetrically from the best information available the reserves of the new fields. As can be seen from Table 3, there was an increase of over 112,000,000 bbl. in reserves, better than 60 per cent during the year 1939. The American Petroleum Institute estimated at the end of 1936 the recoverable reserves of Arkansas to be some 87,000,000 bbl. The increase since that time of 243 per cent is indeed noteworthy.

During the year 1939, February 20, Arkansas adopted with the passage of Act 105 a conservation and proration program which is unique in its operation. Aside from its comprehensive coverage of established conservation precepts, proration is based upon optimum rates of flow or efficient reservoir depletion rather than market demand. There has been such wide interest displayed in this departure from the beaten path of proration methods that I am going into some detail concerning its operation—after a brief discussion of natural gas, natural gasoline, and a review of the statistical tables.

In the old gas field of Arkansas gas production in 1939 showed an increase of 12 per cent over the production of 1938. This increase was due to the seasonal conditions and more continuous operation of industries using gas for fuel. During the years 1938 and 1939, there has been an increased demand for gas for drilling purposes and this was supplied mainly by gas imported into the state from Louisiana. However, in June of 1939, the Arkansas-Louisiana Gas Co. began to utilize the casing-head gas of the Village field, distributing 239,000,000 cu. ft. of this gas for drilling purposes.

The Tide Water Associated-Seaboard Co. began utilizing casing-head gas of the Atlanta field for drilling purposes in September, distributing 28,000,000 cu. ft. in the last 4 months of the year.

In April 1939 the Lion Oil Refining Co. began using casing-head gas from the Schuler field to operate the Lion refinery in El Dorado and also to supply various operators in the Smackover field. They distributed 2,006,000,000 cu. ft. of gas from the Schuler field during the year. Utilizing this gas from our oil wells did not reduce the dry-gas production in the state, but rather decreased the amount of imported gas used in Arkansas.

The dry gas of Arkansas used for light and fuel was handled by six gas pipe-line companies as follows:

Company—	Fields	Million cu. ft.
Arkansas-Louisiana Gas Co.	2	1,786
Arkansas-Oklahoma Gas Co.	5	1,272
Fort Smith Gas Co.	1	227
Twin City Gas Co.	6	828
River Valley Gas Co.	1	29
Mansfield Gas Co.	1	20

F. W. Burford, in the Rodessa field, processed 1,674,000,000 cu. ft. of dry gas in his casing-head plant at Capps City, Miller County.

Gasoline-plant operations in Arkansas in 1939 were confined to five plants, which produced 14,864,000 gal. of gasoline.

Company—	Location:	Gal.
F. W. Burford	Miller County	7,355,000
Magnolia Petroleum Co.	Smackover	1,903,000
Louisiana Iron & Supply Co.	East field	1,927,000
Arkansas Fuel Oil Co.	South field	829,000
Standard Oil Co.	South field	2,850,000

The Shell Oil Co., Inc., and others now have under construction a plant in the Magnolia field which should be completed early in February. The plant is designed to process all of the gas in that field.

●

Equipment Under Derrick Floor Important

EQUIPMENT under the derrick floor is nearly as important as surface machinery, but it comes in for less attention because it is out of sight. The accompanying photograph was taken on a deep test and shows part of the necessary equipment installed before the well is started or immediately after surface casing has been set.

The important item is the blowout preventer, shown at the lower right of the picture. Primarily, this consists of a vertical cylindrical chamber with two horizontal chambers containing rams. The ends of the rams which contact the pipe are concave and have a rubber insert. When closed they grip the pipe tightly and prevent the drilling mud from being blown from the hole. The rams are closed by hydraulic pressure controlled through a valve located close to the driller.

The extra rathole for making rathole connections (often called a mousehole) is shown in the center of the photograph. This rathole is drilled while waiting on cement to set around the surface casing; it is located alongside the rotary table and is little trouble as the rotary table has only to be skidded a few feet, blocked under one side to give the hole its slope, and the drive chain lengthened. In use, a joint of drill pipe is suspended in the hole and the kelly joint screwed on it tonged tightly. The joint is then lifted from the rathole by the kelly and screwed on the drill stem in the hole. This allows circulation to be maintained while lowering a new joint in the hole and eliminates much of the hazard of making connections.

At the left of the photo can be seen a drill-pipe brace which removes part of the strain from the main sills. Drilling crews are generally not satisfied with bracing under the floor, regardless of whether a wooden or fabricated steel substructure has been installed. This is mainly due to the impossibility of making a substructure that would allow for all of the different types of cellars constructed. The rotary table must support the entire string of pipe while trips are being made and the sills directly beneath it are subject to great strain. To prevent bending or breaking of the main sills, the drilling crews install braces supported by heavy sills laid on the floor of the cellar. Only one of the braces is shown in the photograph, but there are three more, one for each corner of the rotary table.

Special Catch Basins

Barely discernible in the picture is a special catch basin for the drilling mud which falls through the rotary table. This is made from sheet metal in two sections with a semicircle in each half which will fit around the drilling nipple. When making a trip on a deep test, it is often impractical to chase the drill pipe until all of the fluid is out of it and the joints are therefore broken while wet, a mud box preventing the fluid from spraying over the derrick floor and directing it through the rotary table. Ordinarily the mud falls into the derrick cellar, in which case it is lost as the cellar generally contains water from washing the floor and the dilution makes the mud unsuitable for further use. With the catch basin in place, the mud is saved as the basin empties through a 4-in. line into the pits. The basin also has a 2-in. pipe into the cellar which can be used when the basin is full of water from washing the rotary table. The 4-in. and 2-in. lines each have valves to direct disposal of the mud.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Illinois Crude Suitable for Gasoline and Fuel Oil

I understand that Illinois crude oil has considerable lube-oil stock and would appreciate it if you will inform me as to yield and grades of the lube oil.—L. G.

The analyses of Illinois oil that have appeared indicate it is suitable for refining for gasoline, distillates and fuel oil. Crude oils used as a source of lubricating oil have certain characteristic properties by which they may be identified. Especially important are viscosity and pour point of the crude oil and the fractions obtained on distillation below gas oil.

The Oil and Gas Journal has published very detailed analysis of Illinois oils, mentioned in the references, from these the analysis of pipe-line oil will serve for this discussion.

The analysis of the topped crude oil show the universal viscosity at 100° F. to range between 52 and 140 seconds and pour point from 20° to 50° F. If a good lubricating stock were present these figures would have to be much higher. More detailed data are revealed in the analysis of pipe-line oil reported in Tables 5 and 7 of the article in The Oil and Gas Journal, October 26, 1939.

PROPERTIES OF PIPE-LINE CRUDE OIL

Gravity A.P.I.	38.40
Sulfur, per cent	0.18
Salt lb./1000 bbl.	35.00
Distillation	°F
Initial boiling point	110
Per cent	
5	165
20	272
40	452
60	638
90	733
End point	750

PRODUCTS SEPARATED BY DISTILLATION

		Per cent
Gasoline 400 E.P.		
Gravity °A.P.I.	61.1	37.3
Octane number	54	
Kerosene		9.7
Gravity °A.P.I.	41.8	
Reduced oil		52.5
Gravity °A.P.I.	24.6	...
Pour °F.	60	...
Viscosity at 210° F.	52	...

These analyses show a very small quantity of lubricating-oil stock available. A fair percentage of wax distillate, the base for lubricating oil, is 18 per cent from Louden oil of Fayette County. The gravity is 30.4 and viscosity at 100° F. is 77 seconds.

The conclusion is that Illinois oil cannot be considered for lubricating oil, its chief value is as a source of gasoline and fuel oil. The combination of topping and cracking gives a high yield of gasoline.

References: Egloff, Zimmerman and Norrell; Refining Characteristics of Illinois Crude Oils, The Oil and Gas Journal, October 27, 1938. p. 87 and October 26, 1939, p. 81.

Calculating Melting Point From Molecular Weight

It appears that there is quite close relation between the change of molecular weight and melting point of the paraffin hydrocarbons. Has a formula been developed adapted for the calculation of such melting points?—D. R. E.

Etessam and Sawyer have investigated the relation between determined and calculated melting points based on molecular weights. They demonstrate that the difference between the determined and calculated figures for the number of *n*-paraffin series having more than 21 carbon atoms in the molecule is within 1° C. The difference between the actual and calculated melting points for the lower numbers in general increases with decrease in the number of carbon atoms in the molecule, the difference being greater for the odd than for the even numbers. However, there exists for the lower numbers a close relation between the calculated and observed melting point.

Examples of reported and calculated melting points are shown in the table.

MELTING POINT OF PARAFFINS

(Temperature °C.)

Member—	Mol. wt.	Melting point reported	Calculated
C_8	86.1	177.6	180.9
C_{10}	142.2	243.3	242.1
C_{14}	198.2	278.5	278.6
C_{20}	282.3	310.0	310.1
C_{22}	310.4	317.5	317.4
C_{24}	338.4	324.1	323.7
C_{26}	394.4	334.6	334.5
C_{30}	422.5	339.0	338.8

The authors state: The melting point of any normal paraffin having more than 21 carbon atoms in the molecule may be calculated from the relation:

$$T = \frac{414{\cdot}5M}{M + 94{\cdot}4}$$

where T = melting point in °K. of the *n*-paraffin of the molecular weight = M.

2. From the relation:

$$T_{(n)} = \tfrac{1}{2}\left(T_{(n+1)} + \frac{414{\cdot}5M_{(n-1)}}{M_{(n-1)} + 94{\cdot}4}\right)$$

where n = even integer.

$T_{(n)}$ = melting point in °K. of C_n *n*-paraffin.

$T_{(n+1)}$ = melting point in °K. of C_n *n*-paraffin.

$M_{(n-1)}$ = molecular weight of C_{n-1} *n*-paraffin.

the melting point of C_n may be calculated when the melting point of C_{n+1} is known, and vice versa.

Reference: A. H. Etessam and M. F. Sawyer, Melting Point and Molecular Weight in the *n*-Paraffin Series. Journal of the Institute of Petroleum. Vol. 25, 253, 1939.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be included.

Physical and Chemical Laws and Principles Used in the Petroleum Industry

CRITICAL TEMPERATURE

is that temperature above which a gas cannot be liquefied by pressure alone. The pressure under which a substance may exist as a gas in equilibrium with the liquid at the critical temperature is the critical pressure.

Quantity of Oxygen-Nitrogen in Air Essentially Constant

What is the chemical composition of air? I have been under the impression that the composition was practically constant and I find in the books analyses that vary by several percentages. Your help in clearing this up will be appreciated.—P. M.

A discussion of the composition of the atmosphere in a very interesting detail is that of F. W. Clark in the Data of Geochemistry. Several abstracts from this book are made in answering the question.

The three essential elements, oxygen, nitrogen and argon, constitute the normal air and vary but slightly from the proportions given in the table.

PRINCIPAL ELEMENTS OF AIR

	Per cent— Weight	Volume
Oxygen	23.024	20.491
Nitrogen	75.539	78.122
Argon	1.437	0.937

Some confusion about this composition may be due to the use of weight and volume percentages without proper indication.

Argon and nitrogen percentages include four rare elements. Ramsay estimated the following to be included with argon, per cent by volume, krypton 0.28, xenan 0.005, helium 0.0004, and neon 0.00123.

Roughly, air consists of 80 per cent nitrogen (inert gases) and 20 per cent oxygen on a volume basis which gives a so-called molecular weight of 28.88, useful in many calculations. Illustrating how constant is the composition, 631 analyses of air for oxygen by volume, showed an extreme variation of 0.46 per cent and a difference in the mean of only 0.106 per cent. Some difference takes place during a cold wave, resulting in a reduction of the oxygen. The breathing of animals and combustion causes oxygen to be withdrawn from air to be combined in compounds, the most important is carbon dioxide. Plants decompose this to release oxygen, rocks and metals absorb oxygen, but such processes take place with a loss of oxygen, so then the oxygen of the air is being depleted but so slowly that no chemical test is sensitive enough to detect the rate.

Nitrogen in the air varies reciprocally with the oxygen. Slight differences in nitrogen may be detected in various places. Electrical discharges produce oxides of nitrogen, plants withdraw nitrogen and the decay of organic water or combustion return it. The air above cities and in the streets varies in composition from other places. The air of the streets of Paris was found to contain per 100,000 parts of hydrogen 19.4, methane 12.1, aromatics 1.7 and carbon dioxide 0.2. Hydrocarbons, sulfur compounds, aldehydes, carbon dioxide and other substances are present in air in small quantities. Carbon dioxide is important; it is normally present to the extent of 3 volumes in 10,000. Estimates suggest what a very large total this 3 parts means. Calculations indicate that the atmosphere contains 2,200,000,000,000 tons of CO_2, which means 600,000,000,000 tons of carbon, without including any smoke. A similar calculation reveals how much nitrogen is available for the chemist to extract. There are in various parts of the world industrial works manufacturing chemicals and explosives from the nitrogen of the air.

Reference: F. W. Clark, The Data of Geochemistry, U. S. Geol. Survey, Bull. 695.

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THE NATIONAL

FIELD OPERATIONS

Summarizing the Week's Developments

ILLINOIS—Two wells, which if permitted to flow to their capacity for 24 hours, might easily produce 10,000 bbl. each, together with a flock of other wells ranging from hundreds to several thousands of barrels of oil daily were completed in the Devonian lime in Marion and Clinton counties in the past week. During the same week production increased to a new high daily average of 373,300 bbl. Potentially Illinois may be in the 400,000-bbl. class at this writing, which would move it up to fourth place among the oil states.

TEXAS—The Rosenberg field in Fort Bend County was extended 2,000 ft. southwesterly. Two Rosenberg outposts were dry holes. A new pool is assured southwest of Inari in Refugio County, the well showing 40-gravity oil. A deep-seated structure was uncovered in Aransas County, the discovery well staging a serious blowout which was still uncontrolled. The Richard King field in Nueces County was extended. The deep Holt horizon in the North Cowden field in Ector County was extended 2½ miles north. In an area covering corners of Wichita and Clay counties three wildcats are centering attention as they near conclusive depths. The first Trinity-sand production in the East Texas basin was opened in Smith County by Shell Oil Co., Inc., which may have opened a deep pool.

LA-ARK-TEX—The Junction City wildcat in Union County, Arkansas, is nearing the Smackover lime and close attention is being given the well. In southern Louisiana a new pay was opened on the west flank of the Bayou Blue dome in Iberville Parish, the discovery well flowing 173 bbl. in 24 hours.

OKLAHOMA—The sixth oil well, near completion in the shallow Hobart pool, Kiowa County, was estimated good for 150 to 175 bbl. of oil an hour. Larger completions of the week included 5,000-bbl. wells in the Ramsey pool, Payne County, and Cement field, Caddo County, and a 2,483-bbl. well in the St. Louis field, Pottawatomie County.

KANSAS—Tentative approval of a loan of $11,500,000 to help finance a gas pipe line from the Panhandle field in Texas and Hugoton field in Kansas was announced by Reconstruction Finance Corp. The Trapp field in Barton County, Bornholdt pool in McPherson County, Big Creek pool in Russell County, and Albert pool in Barton County were extended.

CALIFORNIA—Kettleman Hills operators did not reach a 100 per cent agreement to restrict drilling in the Eocene zone in that field and field work that might have been delayed has been started.

MICHIGAN—Thirteen oil wells were completed in Michigan fields but they averaged smaller than usual in initial production. A new proration order was made effective in Overisel field, which will lower production but will hold back the intruding water.

MISSISSIPPI—The Tinsley field had two completions good for 393 bbl. and 498 bbl. respectively, and one dry hole in Section 7-10-2w, drilled to 5,418 ft.

Completions in All Fields

(Week Ended February 3, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	51	16	5	72	418	332
Ohio	5	5	2	12	96	108
Indiana	2	1	0	3	35	10
Kentucky	6	0	2	8	35	60
Illinois	35	0	10	45	362	386
Michigan	13	0	7	20	144	93
Kansas	15	2	2	19	139	109
Oklahoma	17	0	6	23	172	169
Texas:						
North Central Texas	37	2	22	61	325	195
West Texas	46	0	3	49	261	190
Texas Panhandle	5	2	0	7	66	42
East Texas	8	0	0	8	33	107
East Central Texas	3	0	2	5	29	27
East Texas Border	0	0	0	0	4	11
Gulf Coast Texas	15	0	5	20	152	136
Southwest Texas	20	2	11	33	239	221
Total Texas	134	6	43	183	1,109	929
North Louisiana	3	2	3	8	64	48
Gulf Coast Louisiana	7	0	5	12	93	77
Total Louisiana	10	2	8	20	157	125
Arkansas	2	0	0	2	28	34
Mississippi	2	0	1	3	15	0
Montana	0	0	0	0	18	15
Wyoming	0	0	1	1	20	8
Colorado	0	0	0	0	3	1
New Mexico	7	1	3	11	86	70
California	15	1	1	17	116	92
Total United States	314	34	91	439	2,953	2,541
Total previous week	317	30	75	422		
Week ended Feb. 4, 1939	299	41	92	432		

Outstanding Fields—Highlights

(Week Ended February 3, 1940)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	23	48	7	5,132	1,250	25,349
Wasson-Bennett	31	70	21	21,769	641	25,565
Ector County	18	56	11	6,623	1,954	42,000
Pecos County	10	26	0	0	1,284	26,950
Jones County	4	15	1	444	577	8,450
East Texas	10	18	8	362	26,019	394,598
OKLAHOMA						
St. Louis	4	25	3	2,544	924	34,300
Cement	5	19	2	5,079	286	6,700
KANSAS						
Barton County	6	23	0	0	464	13,835
Ellis County	4	20	3	1,299	483	12,970
Rice County	5	22	1	1,001	1,426	36,805
Russell County	5	26	2	592	1,469	32,465
NEW MEXICO						
Lea County	4	50	6	1,059	2,360	86,870
Eddy County	11	58	1	150	508	15,180
LA-ARK-TEX						
Cotton Valley, La. (deep)	1	5	0	0	153	14,325
Magnolia, Ark.	1	8	0	0	87	20,600
MICHIGAN						
Freeman-Redding	2	8	1	303	139	15,172
Kent County	4	36	1	430	267	15,836
CALIFORNIA						
Montebello	1	16	1	305	342	26,500
ILLINOIS						
Salem	40	99	13	26,671	1,626	229,300
Louden	6	40	5	873	1,326	66,839
Other basin fields	38	200	17	3,077	3,434	69,861
Old fields	....	.....	....	.....	.....	7,300
MISSISSIPPI						
Tinsley pool	1	7	2	891	16	4,600

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

Record-Breaking Wells and Daily Production in Illinois

MATTOON, Ill., Feb. 5.—As if defying crude-oil markets, conservationists and anything else that may have stood as a deterrent, the Illinois oil fields set out to break records in the past week, and succeeded in doing so by completing a 10,000-bbl. Devonian-lime oil well in the Salem field and establishing a record of 373,300 bbl. a day in crude-oil production, as an average for the week.

Paul Rossi's No. 9 Brooks, SW NE SW Section 29-2n-2e, a mile south and then ½ mile west of the Devonian discovery well on the Shanafelt farm, got Devonian-lime top at 3,327 ft. and pay at 3,379-3,425 ft. It flowed 52 bbl. per hour naturally. It was acidized with 5,000 gal., and flowed 1,243 bbl. in 3 hours, gaging 438 bbl. the third hour. It was then pinched down to a $\frac{1}{8}$-in. orifice and through this flowed 132 bbl. an hour until all storage on the property was filled. Then the well was shut in. It was rated as a 10,000-bbl. well. In its third hour it was flowing at the rate of 10,512 bbl. per day. Whatever it might have done in a 24-hour flow the well was regarded as the largest yet brought in in the state and indicated what might occur at any of the many Devonian wells now drilling in the Salem field. W. C. McBride, Inc., completed a 6,028-bbl. well in No. 18 N. Lee, 360 ft. from south and 333 ft. from east lines of NW NE SE Section 29-2n-2e. Total depth of the well was 3,412½ ft. It had been acidized with 6,000 gal. and was permitted to flow 6 hours, during which it produced 1,480 bbl. Another late Devonian success was Magnolia Petroleum Co.'s No. 33 Shanafelt, NE NW SE Section 29-2n-2e, which had Devonian pay at 3,319-40 ft. and after a 5,000-gal. acid treatment produced 3,500 bbl. in 24 hours through tubing and casing. Magnolia Petroleum Co.'s No. 35 Shanafelt, 213 ft. from north and 287 feet from east lines of NW SE Section 29-2n-2e, was good for 3,636 bbl. a day after an acid treatment. It was bottomed in Devonian lime at 3,412½ ft.

Magnolia earlier in the week had completed a 5,966-bbl. well in No. 32 Shanafelt and a 3,648-bbl. well on the J. R. Young farm, which are recorded farther along in this account.

Texas Co.'s No. 20 D. Young, SW SW SW NW Section 21-2n-2e, had Devonian pay at 3,442-63 ft., which was acidized with 5,000 gal. It responded with 442 bbl. of oil in 3 hours. Texas earlier in the week had completed a 1,897-bbl. well in No. 23 M. Young.

A new Devonian-lime well in the Centralia field was J. Hal Jones and C. E. Deaton's No. 1 Langenfeld, Lot 13, Block 2, Pullen subdivision, which flowed 84 bbl. the first hour after a 500-gal. acid treatment. Later it flowed about 70 bbl. per hour through a ¾-in. choke. It is the best of the Devonian wells in the townsite field.

35 New Oil Wells

The total number of completions in the state during the week was unusually low. There were 35 new oil wells, with a combined actual initial production of 30,621 bbl., some of the wells having been given a 3 or 6-hour flow. Ten dry holes were recorded and no gas wells. In Fayette County six wells produced 969 bbl. initially. In Marion County 13 wells actually produced 26,671 bbl. In Monroe County two wells produced 137 bbl.; Jefferson County, one well, 127 bbl.; Washington County, one well, 56 bbl.; Richland County, two wells, 1,710 bbl.; Clay County, two wells, 340 bbl.; Wabash County, four wells, 294 bbl.; Wayne County, one well, 40 bbl.; White County, one well, 60 bbl. Dry holes were one each in Schuyler, Clinton, Marion, Jefferson, Williamson, Richland, White, and Massac, and two in Gallatin County.

The new fiscal week opened with the report of the completion of John R. Mitchell's No. 5 Lee, 396 ft. from north and 362 ft. from west lines of SE NE Section 29-2n-2e, Salem field, which flowed 7,380 bbl. in 24 hours through a 1-in. choke, following a 5,000-gal. acid treatment. There are five producing wells on this 5-acre lease, the four others producing from Benoist, Aux Vases and McClosky pays. The Mitchell well came in too late to be included in the above record of completions by counties.

In the St. James pool in Fayette County, Sherman and others' No. 2 Garver, SW NE NE Section 25-6n-2e, pumped 96 bbl. of oil and 46 bbl. of water after a 10-qt. shot in Cypress sand at 1,558-72 ft.

In Schuyler County John Mockler's No. 1 Simpson, NW NW NW Section 35-3n-1w of fourth principal meridian, topped Devonian lime at 726 ft. and the Maquoteka shale at 808 ft., total depth. It was dry and abandoned at 831 ft.

Illinois Fields

HIGHLIGHTS OF THE WEEK: Illinois broke all its production records last week with an average daily production of 373,300 bbl. per day. The big-well record in the state was also shattered with a 10,000-bbl. well and another flowing 7,380 bbl. through a 1-in. choke, both producing from Devonian lime, which also yielded large production from other wells in Section 29-2n-2e. All the big wells were in the Salem field.

Twenty-seven operations which will drill to the Devonian lime were started last week in Marion County, led by the Texas Co. with 15 operations started in the Salem field. The greater part of the drilling for the Devonian is in Sections 20, 21, 29 and 32 Township 2n-2e.

Average daily production for the week: Salem, 229,300 bbl.; Louden, 66,839 bbl.; other basin fields, 69,861 bbl.; old fields, 7,300 bbl.

In Clinton County Benoist and others' No. 1 E. Benoist, NE SE NE Section 24-3n-1w, in the Fairman area, was abandoned at 1,542 ft. It was a hole full of water from the Benoist sand. W. R. Curry's No. 1 DuComb, SE NW SE Section 13-3n-1w, made a 5-bbl. well after several small shots of nitroglycerin in Benoist sand at 1,464-89 ft. It also produced some water.

Baldwin and others' No. 1 Schaffnit, SW cor. SE¼ Section 4-2n-1e, Sandoval pool, Devonian lime at 2,978 ft., pay at 3,013-16 ft., acidized with 1,000 and 1,200 gal., tested water, plugged and abandoned.

Tomberlin deepened an old well, No. 2 Young heirs strip, NW cor. SE NE SE Section 20-2n-2e, Salem pool, from 2,057 ft. to 2,226 ft., acidized it with 3,000 gal., and the well flowed 3 days and then died. It made 190 bbl. the first day and 121 bbl. the third day. It will be put on the pump. Pay was at 2,208-25 ft.

A number of wells in Clay County were worked over and recompleted recently with varying results but in no case very important. Rosiclaire lime and Aux Vases sand were tested, in some cases with small increase over the former production; in other cases with no increase.

In the Centralia field Johnston-Burnham Drilling Co.'s No. 1 Bailey-Marshall, SE SE NE Section 13-1n-1w, Clinton County, topped Devonian lime at 2,863 ft., total depth 2,915½ ft., acidized with 500 gal. and 700 gal. The well flowed 212 bbl. by heads in 24 hours.

In the southern part of the Salem field in Marion County, Frontier Oil & Gas Co.'s No. 4 Friederich, SW cor. NW NW Section 9-1n-2e, was acidized in Benoist sand and McClosky lime from 1,826 to 1,860 ft., with 500 gal. and then shot with 40 qt. at 1,840-65 ft. It made a 75-bbl. pumper.

Completions in Salem

In the Salem pool in Marion County, Magnolia Petroleum Co.'s No. 41 Chitwood, SE NE SW Section 16-2n-2e, topped McClosky lime at 1,993 ft., total depth 2,047 ft. It was acidized with 2,000 gal., and made a 130-bbl. pumper. Kingwood Oil Co.'s No. 22 Shanafelt A, SW NW SE Section 20-2n-2e, topped Devonian lime at 3,334 ft., total depth 3,420 ft. It was acidized with 5,000 gal., and flowed 3,912 bbl. of oil through casing and tubing. Texas Co.'s No. 23 M. Young, SE cor. NE¼ Section 20-2n-2e, Devonian-lime top at 3,370 ft., pay at 3,416-56 ft., total depth, acidized with 5,000 gal., flowed 1,897 bbl. in 24 hours, 18 hours through casing and 6 hours through tubing. Magnolia Petroleum Co.'s No. 32 S. Shanafelt, NW SE SW Section 29-2n-2e, Devonian at 3,314 ft., pay at 3,383-3,440 ft., total depth, acidized with 5,000 gal., flowed 5,966 bbl. Magnolia Petroleum Co.'s No. 18 J. R. Young, NE SW NE Section 29-2n-2e, Devonian at 3,320 ft., total depth 3,424 ft., acidized with 5,000 gal., flowed 3,648 bbl. Texas Co.'s No. 22 W. Friederich A, Fredonia lime at 1,919 ft., pay at 1,927-76 ft., acidized with 2,000 gal., pumped 378 bbl. Texas Co.'s No. 14 T. Stroup, CWL SW SE Section 30-2n-2e, McClosky pays at 1,962-75 ft. and 1,993-98 ft., pumped 364 bbl.

In Monroe County Ames Petroleum Co.'s No. 3 Theobald, SE cor. SW SE SW Section 35-1s-10w, found Trenton-lime pay at 410-40 ft., acidized it with 1,000 gal., and got a 17-bbl. pumper along with 22 bbl. of water per day. Ames Petroleum Co.'s No. 1 Kolmar, NW cor. NE NW Section 2-2s-10w, had Trenton pay at 406-32 ft., acidized with 1,000 gal., and the well pumped 160 bbl. of oil in 35 hours, with no water.

In Jefferson County Alma Oil Co.'s No. 1 Cunningham, C W½ NW SE Section 3-1s-2e, was shot with 5 qt. in Benoist sand at 1,983-88 ft. It pumped 127 bbl. of oil and 10 bbl. of water. Alma Oil Co.'s No. 1 J. H. Copple, SE NW SW Section 4-1s-2e, was dry and abandoned in Benoist sand at 1,961-75 ft.

In Washington County Magnolia Petroleum Co.'s No. 1 Paszkiewicz, NW SW NE Section 23-3s-3w, was shot with 21 qt. in Benoist sand at 1,265-74 ft. It pumped 56 bbl. of oil and 6 bbl. of water.

In Williamson County Carterville Oil & Gas Co.'s No. 1 Colp, SE SE NW Section 2-10s-1e, was dry and abandoned at 2,232 ft. It had no showings at any depth. St. Louis lime was topped at 2,117 ft.

In Fayette County, Louden field, Carter Oil Co.'s No. 2 Fay Kline, SE SW NW Section 13-8n-3e, had Cypress sand at 1,487 ft., total depth 1,519 ft. Shot with 20 qt., it swabbed 318 bbl. of oil in 24 hours. Carter's No. 2 Taylor-Reed, NE SE SW Section 12-8n-3e, was shot with 20 qt. in Cypress sand at 1,495-1,503 ft. It swabbed 228 bbl. Carter's No. 6 F. P. Sinclair, shot with 10 qt. at 1,532-38 ft., swabbed 56 bbl. Carter's No. 11 Griffith, SW SW NE Section 31-7n-3e, shot with 5 qt. in Cypress at 1,552-90 ft., swabbed 120 bbl. Ohio Oil Co.'s No. 6 S. W. and A. E. Schworm, SE SW SW Section 30-6n-3e, shot with 9 qt. in Cypress at 1,598-1,617 ft., pumped 151 bbl.

In Richland County Mammoth Producing & Refining Co.'s No. 1 Johnoff, C E½ NE SE Section 24-5n-9e, was dry and abandoned at 2,998½ ft. Pure Oil Co.'s No. 3 Glossbrenner, C E½ SE NW Section 31-5n-10e, Mc-

Closky pay at 2,810-21 ft., acidized with 5,000 gal., flowed 254 bbl. through 1-in. choke. Pure's No. 1 B. Rule, C W½ NW NW Section 7-4n-10e, Fredonia lime pay at 2,895-99 ft. and 2,901-08 ft., flowed 1,456 bbl. naturally through 1-in. choke.

In Clay County Pure Oil Co.'s No. 4 G. L. Travis C, C W½ NW SE Section 32-3n-8e, acidized with 5,000 gal., pumped 108 bbl. Fredonia lime topped at 2,985 ft., total depth 3,055 ft. Pure's No. 1 Padgett, C W½ NW SW Section 34-2n-8e, acidized with 5,000 gal. in pay at 3,051-55 ft. and 3,100-03 ft., flowing 232 bbl.

In Wabash County Delta Drilling Co.'s No. 1 Witter, SE SE NE Section 17-1s-12w, St. Louis lime at 2,385 ft., total depth 2,400 ft., plugged back to 2,060 ft. It made a 19-bbl. well in Cypress sand topped at 2,014 ft. Continental Oil Co.'s No. 5 Albert Gray, SE SW SW Section 20-2s-13w, Cypress sand at 2,458-66 ft., shot with 20 qt., pumped 78 bbl. Oliver Petroleum Co.'s No. 1 Nash, SE SE SW Section 9-2s-13w, Palestine sand at 1,815-25 ft., pumped 87 bbl. Longhorn Oil & Gas Co.'s No. 4 Heil, 1,766 ft. from east and 2,000 ft. from north lines of SW¼ Section 7-3s-13w, Cypress sand at 2,527-49 ft., pumped 110 bbl.

In Wayne County H. H. Weinert's No. 7 Morlan A, SE SW NE Section 33-2s-7e, completed at 3,335 ft., pumped 40 bbl. in 8 hours and then quit producing.

In White County R. W. Slemaker's No. 1 Hanna, SW NW NE Section 31-5s-10e, was dry and abandoned at 3,192 ft. Aux Vases sand was topped at 3,021 ft. In the Storms pool R. E. Johnston's No. 1 Storms heirs, NE NW SE Section 23-6s-9e, Waltersburg sand at 2,257-67 ft., swabbed 60 bbl. of oil and 15 bbl. of water.

In Massac County Kahle and others' No. 1 Havick, SW SW SW Section 23-14s-3e, was dry and abandoned at 3,030 ft. Trenton rock was topped at 2,849 ft.

In Gallatin County Kingwood Oil Co.'s No. 1 Robinson, NE NW NW Section 4-8s-8e, was dry and abandoned at 2,846 ft. St. Louis lime was topped at 2,822 ft. Angle & Angle's No. 1 Duffy, NE NW NW Section 25-8s-9e, was dry and abandoned at 3,007 ft., 32 ft. in the St. Louis lime.

New Wildcats

In Shelby County Seaboard Oil Co. and P. N. Wiggins made a location for No. 1 Miller, SW SW SE Section 32-11n-2e. Kingwood Oil Co. had rotary rigged up for No. 1 Sloane, NE SE NE Section 29-9n-2e.

In Fayette County Kingwood Oil Co. had rotary rigged up for No. 1 Sloane, NE SE NE Section 29-9n-2e.

In Crawford County Canadian Oil Co. was moving in material for No. 1 Goff, 660 ft. from south and 600 ft. from east lines of NW SE Section 16-5n-12w.

In Adams County Henry Schuster was rigging up cable tools at No. 1 fee, 1,511 ft. from north and 744 ft. from east lines of SW¼ Section 25-2n-6w of fourth principal meridian.

In Wabash County Holeman's No. 1 Brines, NW NW SE Section 5-1n-13w, is a location.

In Gallatin County Exchange Oil Co.'s No. 1 Hensling, NW SW NW Section 7-8s-9e, a location.

Wildcat Progress

Most of the wildcats in Illinois were shut down. Following active ones were visited and their progress is given:

In Lee County E. L. Otto's No. 1 Barnes, SE NE SW Section 6-19n-10e, total depth 300 ft. Crew was making repairs.

In Macon County Eureka Oil Co.'s No. 1 W. F. Rhodes, SW SW NW Section 28-17n-3e, had derrick up.

In Edgar County H. C. Hawthorne's No. 1 Hathaway, NW NW SW Section 17-14n-13w, fishing at 897 ft.

In Shelby County O. Baugher's No. 1 Anderson, NW NW NW Section 36-12n-5e, location made.

In Clark County Allen & Sherritt's No. 1 Biggs, NW NW SW Section 9-11n-14w, rigging up machine. Kingwood Oil Co.'s No. 1 Booth-Poorman, SW NW NE Section 17-11n-14w, drilling below 250 ft.

In Montgomery County Henderson Brothers' No. 1 Ostermeier, NW NW NW Section 30-10n-14w, total depth 642 ft., hole was bailed dry, then tested 60 gal. of oil and 1 gal. of water per hour; testing continued.

In Effingham County Turner's No. 1 Hoagland, NW NW SW Section 14-9n-4e, total depth 1,672 ft.; fishing for tools.

In Crawford County Denver Producing & Refining Co.'s No. 1 Dennis, SW SW NW Section 14-7n-14w, drilling at 2,660 ft. Warsaw lime topped at 2,385 ft.

In Lawrence County Walter Payne's No. 1 Monjar, SW NE NW Section 28-4n-11w, drilling at 900 ft. W. L. Dorsey's No. 1 Vandermost, NE SW NW Section 2-2n-12w, drilling at 650 ft.

In Wabash County H. Riddle and others' No. 1 Seibert, NE NE NE Section 4-1n-13w, set 5½-in. casing at 2,675 ft., total depth 2,743 ft. Bruce and Lacey's No. 1 Kenellt, SE SW SE Section 19-1s-12w, fishing at 1,275 ft.

In Wayne County Duncan's No. 1 Taylor, C S½ SE NE Section 33-1s-7e, drilling at 3,156 ft. Oil Well Drilling Co.'s No. 1 D. A. Willard, C S½ SE SW Section 27-1s-7e, drilling at 3,240 ft. Johnson Oil Co.'s No. 1 Wagner, NE SW SW Section 27-1s-7e, rig up. Lessing Alch's No. 1 Dickey, C S½ SE NE Section 3-1s-6e, total depth

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INDIANA

EVANSVILLE, Ind., Feb. 5.—A pair of oil wells were completed in Posey County and a gas well in Spencer County, which comprised the total of results in Indiana in the past week in review. Shutdown drilling wells are numerous. Following are reports from active operations:

Posey County

In Posey County Brown, Ryan and others' No. 1 Spencer, C E½ SE SE Section 26-7s-15w, had Glen Dean sand at 2,204 ft., and was drilling at 2,255 ft. with no showings. Superior Oil Co.'s No. 22 New Harmony Land Co., NW SE NE Section 9-5s-14w, Waltersburg sand at 2,172-2,207 ft., total depth 2,209 ft.; 7-in. casing set at 2,173 ft.; No. 25 New Harmony, NE SE NE Section 9, was drilling at 1,700 ft. Joe Minton and others' No. 1 Hill, NW SE NW Section 7-4s-13w, set 10-in. casing at 91 ft. Superior Oil Co.'s No. 2 Mumford, SW SE NW Section 31-3s-13w, shut down at 2,716 ft. J. E. Crosbie, Inc.'s No. 4 Keck, NW SW NE Section 34-3s-14w, total depth 2,819 ft., ripped casing at 2,198-2,205 ft. and 2,164-67 ft., and the hole filled with water. The crew will do a squeeze job and rip pipe again; No. 5 Keck, SW cor. NE¼ Section 34, had sand at 2,151-59 ft., total depth 2,165 ft., and set 7-in. casing at 2,150 ft. preparatory to a test. McBride & Shirley's No. 1 Keck, NE NE NW Section 34-3s-14w, shut down at 1,664 ft. Roberts Brothers' No. 3 Keck, C N½ N½ NW¼ Section 34-3s-14w, set 7-in. casing at 2,795 ft., total depth. Somers & Egan's No. 2 Keck, SE NW NE Section 34-3s-14w, was drilling at 2,200 ft. George Harsh, Jr.'s No. 1 Keck, NW cor. Section 35-3s-14w, was fishing for casing, total depth 2,810 ft. Superior Oil Co. completed No. 24 New Harmony, SE SE NE Section 9-5s-14w, in sand at 2,159-2,207 ft., and it is a 300-bbl. pumper. Haynes & Thomas' No. 4 Seifert, NW cor. SW SE Section 19-6s-12w, was reported to have pumped 50 bbl. per day from sand at 2,378-86 ft., and was completed. This is unofficial.

In Knox County Horton & Wiggins' No. 1 Upham A, on Tract 3, Township 1s-12w, had base of the Pennsylvanian at 1,598 ft., Tar Springs sand at 1,706 ft., and was drilling at 1,737 ft.

Gibson County

In Gibson County Continental Oil Co.'s No. 2 Thrash, 176 ft. from north and 2,116 ft. from east lines of SW¼ Section 18-3s-13w, Cypress sand at 2,493-2,503 ft., set 5½-in. casing at 2,485 ft. preparatory to testing. Ray Ryan and others' No. 1 Skiles, SW cor. NW NE Section 18-3s-13w, shut down at 2,576 ft. Huddleston had rig up for No. 2 Jolly, SW cor. SE SE NW Section 18-3s-13w. Continental Oil Co.'s No. 1 Kleiderer, NW SE NW Section 26-3s-14w, was shut down at 2,509 ft., Tar Springs sand was topped at 2,165 ft. Joe Bander and others made a location for No. 29 Cooper, 1,155 ft. from south and 330 ft. from west lines of NE¼ Section 13-3s-14w. Continental Oil Co. had rig up for No. 4 Keck, 330 ft. from south and 897 ft. from west lines of SW¼ Section 26-3s-14w, and made a location for No. 5 Keck, 165 ft. from south and 330 ft. from east lines of SW¼ Section 27-3s-14w. A. L. Braden and others' No. 1 Simpson, SW cor. NW SE NE Section 19-3s-11w, Tar Springs topped at 1,855 ft., drilling at 1,900 ft., with no showings. Fotiades and others' No. 1 Fleener, SE NW SE Section 21-3s-12w, Ste. Genevieve-lime top at 2,595 ft., shut down at 2,653 ft., with no showings. Kingwood Oil Co. and others' No. 1 Dunn, SE SW NE Section 17-3s-12w, location. Sloss & Walls' No. 1 Oakland City College, NW cor. NE SE Section 13-2s-9w, shut down at 950 ft. Midwest Development Co.'s No. 2 Beatty, SE SE NW Section 15-2s-9w, was at a total depth of 1,672 ft., a showing of oil at 1,621-40 ft., proved of small importance. Barenther and others' No. 9 Hollingsworth, C N½ SW SE Section 13-2s-10w, was shut down at 38 ft. Lane, Grey and others' No. 1 McCarthy, NW SE NW Section 13-2s-11w, plugged back from 2,200 ft. to 1,821 ft. and shut down.

In Vanderburgh County Volkman and others' No. 1 Heldt, C E½ NE SW Section 18-7s-11w, was plugged back from 1,932 ft. to 1,844 ft., and shut down for orders. J. L. Drake's No. 1 Seib, SW cor. SE NE NW Section 23-5s-10w, had a hole full of water from Mansfield formation topped at 960 ft., total depth 1,000 ft., shut down for orders.

In Spencer County Damron Brothers completed a gas well that started at 11,206,000 cu. ft. per day at No. 1 Tullos-Williamson, NE SW SE Section 19-7s-6w, producing from sand at 891-903 ft., with a rock pressure of 390 lb. Same operators were rigging up standard tools for No. 3 Wright, C SW SW Section 20-7s-6w. Sturboise and others had standard tools rigged up on No. 1 Boyd, NE NE Section 31-7s-6w. Snell and others' No. 1 Biggerstaff, SW cor. SE¼ Section 6-7s-7w, total depth 1,061 ft., plugged back to 1,056 ft., swabbed dry; filled up over night with water and a small showing of oil. Snell and others' No. 1 Crowder, NW cor. SW NW Section 7-7s-7w, shut down at 820 ft. Damron Brothers had a hole full of water at 1,485 ft. in No. 2 Howard, NE SE SE Section 35-7s-7w, and shut down.

In Warrick County Winter and others made a location for No. 1 Brockmer, SW NW NW Section 13-5s-9w. Fred McWilliams abandoned as dry No. 1 Edwards, NW SE SE Section 24-5s-9w, at 1,700 ft.

In Jackson County Favorite Oil & Gas Co. made a location for No. 1 Shortridge, 150 ft. from south and 360 ft. from east lines of NE SW Section 27-5n-3e.

In Decatur County Hoosier Public Utilities Corp. made a location for No. 207 C. V. Abeele, C SE SE Section 11-9n-9e.

In Martin County Pioneer Drilling Co.'s No. 1 Meyer, NE NE SW Section 26-2n-4w, was drilling at 1,590 ft. Harrison Development Co.'s No. 1 Lewis, NW NW SE Section 27-5n-3w, was drilling below 510 ft. Norris & Gilmore made a location for No. 1 C. B. Thorp, SW cor. Section 26-3n-4w.

In Daviess County Fred L. Hartman abandoned No. 2 Edith White, NW cor. SW NW SW Section 22-2n-7w, in sand at 320-52 ft., total depth.

Porter County

Dail Goodson Drilling Co.'s No. 1 Pluta in Section 28-37n-5w, Porter County, reported abandoned in a quicksand, was later reported drilling at 452 ft. by its owner. It is a Trenton-lime test and that formation is expected around 1,300 ft. Mr. Goodson says the well had an oil showing at 218 ft.

WESTERN KENTUCKY

OWENSBORO, Ky., Feb. 5.—The best new well of the week in the western Kentucky fields was a 200-bbl. initial producer in the Utica district in Daviess County. Five oil wells and two dry holes were completed.

Daviess County, Pleasant Ridge district: General Drilling Co.'s No. 4 T. T. Church, 15-bbl. well in Jackson sand, total depth 1,052 ft. Handyville district: Master Oil Co.'s No. 1 W. W. Davis, plugged back to 1,620 ft., shot Bethel sand with 60 qt., 1 bbl. of oil and 5 bbl. of water. Utica district: Stewart, Snyder, and Sargent's No. 4 Roy Hansford, 200-bbl. well in Jett, Barlow, and Bethel sands, total depth 1,497 ft. Wanna Oil Co.'s No. 2 L.&N.R.R. right-of-way, drilling at 160 ft. Stewart, Snyder, and Sargent's No. 5 Dr. A. A. Westerfield, location. Hewlett's Store district: F. F. Gibson and others' No. 2 W. H. Harrison, drilling deeper at 1,067 ft. Pellville district: Trennan Oil Co.'s No. 1 Myles heirs, abandoned location.

Henderson County, Niagara district: Chester Oil Co. and others' No. 5 Mrs. Eula Jones, rigging up.

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OHIO

NEWARK, Ohio, Feb. 5.—Operations in the Ohio fields continued quiet during the past week. Shutdowns among the drilling wells are numerous. Eleven completions were reported, four gas wells, one combination well and five dry holes.

In Athens County, Rome Township, Ohio Fuel Gas Co.'s No. 1 W. H. Marrison, Section 36, dry in the Injun sand, total depth 1,113 ft.

In Coshocton County, Mill Creek Township, Bell Brothers' No. 1 Walter I. Lowe, Section 2, found the Berea dry, total depth 920 ft.

In Guernsey County, Center Township, Stranges & McCloy's No. 1 John Oliver, Lot 9, gaged 250,000 cu. ft. of gas in the Berea at 1,381-87 ft.

In Holmes County, Prairie Township, J. C. Moore and

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By
D. H. STORMONT

North Cowden Deep Pay May Have Extension of 2½ Miles

MIDLAND, Tex., Feb. 5.—Heading the week's developments in the West Texas district was an indicated 2½-mile north extension to the deep Holt horizon found at the north end of the North Cowden field in Ector County. Casing has been cemented for production tests, scheduled for early this week. Should commercial production be developed, this new and little-explored deep level would have a possible productive length of 5 miles.

The indicated producer, Stanolind Oil & Gas Co.'s No. 1 W. F. Cowden, 660 ft. north of the center of the south line of Section 4, Block 43, T-1-N, T.&P. Survey is 2½ miles north and west of the discovery well drilled by Gulf Oil Corp. Cores from 5,110 to 5,164 ft. recovered only broken showings of oil, with slight odors of gas. In coring ahead saturation was drilled from 5,164 to 5,184 ft. where heavy saturation was found in lime to 5,193 ft. Broken showings were drilled the remaining 7 ft. to the total depth of 5,200 ft. Casing has been set at 5,140 ft.

The horizon was opened by Gulf Oil Corp.'s No. 1 O. B. Holt, SW cor. W½ Section 1, Block A, P.S.L. Survey, in June of last year. In September came the second completion in that horizon, Stanolind Oil & Gas Co.'s No. 1 Blakeney, NE SW Section 28, some 2½ miles to the southeast. Sinclair Prairie Oil Co. completed, in November, an east offset to Gulf's discovery well to provide the third well from the horizon. The discovery well made 217 bbl. daily from a plugged-back depth of 5,168 ft., while Sinclair Prairie Oil Co.'s offset made 450 bbl. daily from a total depth of 5,157 ft. The pay section in the new outpost was encountered at about the same level as in the two producers to the southeast, the entire horizon being about 1,000 ft. below the regular lime pay of the other fields.

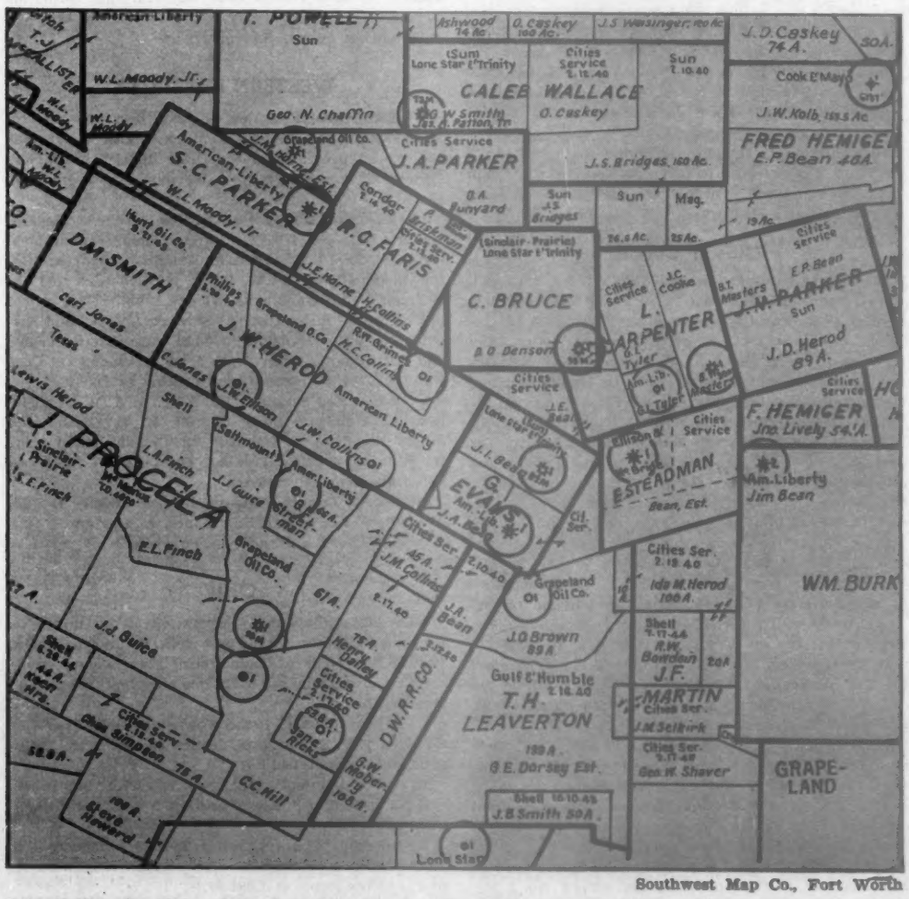
Indicating that the deep horizon may experience considerable exploratory work, Landreth Production Corp. and Shell Oil Co., Inc., announced that their No. 1-A Johnson, wildcat in central Ector County, and about 12 miles directly south of Gulf's discovery well, would be deepened to the Holt horizon. The No. 1-A Johnson is located in Section 43, Block 43, T-1-N, T.&P. Survey, approximately 4 miles west of the north extension area of the Foster pool. Landreth and Shell's wildcat last week pumped 22½ bbl. of sulfur water and 2½ bbl. of oil in 24 hours after it was acidized with 4,000 gal. at 4,500 ft.

Andrews County was given a new wildcat location when Champlin & Bass of Dallas staked No. 1 L. McQuatters, 660 ft. from the north and east lines of Section 20, Block 34-A, P.S.L. Survey, 1¾ miles west of an outpost producer by Humble Oil & Refining Co. on the Jessie Spinks tract, the only test drilled between it and the field proper.

Crockett County's Todd area centered attention as definite limitations were placed on the extent of the shallow pay opened 2 weeks ago. Continental Oil Co. abandoned No. 1-32 Todd, Section 32, Block WX, G.C.& S.F. Survey, ½ mile west of its deep Ordovician wildcat, at a total depth of 1,510 ft. where sulfur water was encountered. Continental Oil Co.'s No. 4 Todd, shallow discovery well, is a twin to the deep Ordovician test. This places the shallow failure a half mile west of the discovery well. Continental Oil Co.'s second deep test in the area, No. 2 Todd, located 1,980 ft. from the south and 2,010 ft. from the west lines of Section 29, has been junked and abandoned due to a crooked hole. The rig has been skidded 30 ft. west from another hole which will be No. 2-X Todd. Stanolind Oil & Gas Co.'s No. 5-A Todd (formerly Continental's No. 7-A Todd), is being prepared for acid treatment after showing for 30 bbl. of oil daily, natural flow, from pay at 1,375-85 ft. Meanwhile the original deep wildcat test for the area, Continental's No. 1 Todd, north offset to the shallow discovery well, is swabbing and testing at a plugged-back depth of 6,620 ft.

Possibility of further Ordovician exploratory activity for northern Pecos County was seen when it was reported that Humble Oil & Refining Co. had acquired a 21,000-acre block approximately 8 miles southwest of the Apco pool. Acreage acquired was the San Pedro ranch, generally known as the Mary A. Delvin properties. The block lies west of Shell Oil Co., Inc., and Kirby Petroleum Co.'s failure at 5,205 ft. which found the granite high and proved to be the key well to the Ordovician play for the entire northern part of the county.

Tom Green County was given a new wildcat operation when B. C. Mann started No. 1 Wall, Section 32, Block 5, H.&T.C. Survey. Contracted to 1,500 ft., the wildcat is about ¾ mile southwest of a test drilled by the operator in 1938 which was abandoned in sulfur water at 1,438 ft. The wildcat has been spudded and is drilling ahead.



Delta Drilling Co., Tyler; Richardson Oils, Inc., and George Ets have all staked outpost locations on the north side of the Slaughter pool of Hockley County

Northern Basin

Two new wildcats were reported for Yoakum County during the week, neither having been officially staked but both scheduled to be drilled this spring. The wildcats are planned by Tom Sloan and Hugh Corrigan, one of them to be in Section 554, 2 miles north of Shell Oil Co., Inc.'s lone producer on the Waples-Platter land immediately northeast of the Bennett area. The other wildcat is scheduled for the NW¼ Section 147, in the P. M. Williams lands and on acreage farmed out from Texas Co.

Three and one-half miles north of the Cedar Lake field in northeastern Gaines County Stanolind Oil & Gas Co. is still swabbing and testing at its No. 1 Riley, Section 11, Block H, D.&W. Survey. On a recent test the possible field extensioner made one of its best showings to date when it swabbed 10 bbl. of oil in 8 hours. A soil survey made of the Cedar Lake area, prior to the spudding of the No. 1 Rayner which opened the field, showed the well's location to be beyond the field's productive limits; that at best, only shows of oil would be found.

Spudding was scheduled over the week end for Krupp Flaherty Oil Co.'s No. 1 H. O. Kleen, 6,500-ft. wildcat test in Swisher County, far north Permian basin. Location is 1,320 ft. from the south and west lines of Section 120, Block 10-M, B.S.&F. Survey, 12 miles northeast of Tulia. The test is on a block of 20,000 acres assembled by M. B. Pierson and J. L. Cantrell and adjoins a Humble Oil & Refining Co. block on the south and southeast.

WEST TEXAS COMPLETIONS

(24-hour gages)

Andrews County

In the Means field Humble Oil & Refining Co.'s No. 24 R. M. Means, 4,490-4,505 ft., 1,081 bbl.

Crockett County

In the Todd field Continental Oil Co.'s No. 1-32 Todd, dry and abandoned at total depth of 1,510 ft. Continental

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Oil Co.'s No. 2 Todd, junked and abandoned at total depth of 472 ft.

Ector County

In the Foster field, Arrow Drilling Co.'s No. 1 J. L. Johnson, 4,094-4,204 ft., 645 bbl. Atlantic Refining Co.'s No. 4 Foster, 4,080-4,200 ft., 372 bbl. Sinclair Prairie Oil Co.'s No. 1-B Johnson, 4,040-4,151 ft., 698 bbl. Stanolind Oil & Gas Co.'s No. 37-B E. F. Cowden, 4,025-4,220 ft., 884 bbl. Stanolind Oil & Gas Co.'s No. 27 Witcher, 4,030-4,286 ft., 1,364 bbl. In the Goldsmith field Gulf Oil Corp.'s No. 240 Goldsmith, 4,071-4,191 ft., 72 bbl. Landreth Production Corp.'s No. 9-M Scharbauer, 4,142-4,173 ft., 242 bbl. Landreth Production Corp.'s No. 1-S Scharbauer, 4,163-83 ft., 162 bbl. Phillips-Pure's No. 70 C. Cowden, 4,117-61 ft., 376 bbl. In the Jordan field Shell Oil Co., Inc.'s No. 3-A University, 3,520-3,668 ft., 203 bbl. Shell Oil Co., Inc.'s No. 5-E University, 3,375-3,653 ft., 1,578 bbl.

Gaines County

In the Seminole field Amerada Petroleum Corp.'s No. 1 J. L. Sawyer, 5,241-5,356 ft., 372 bbl. Atlantic Refining Co.'s No. 1-C Riley, 5,080-5,293 ft., 1,011 bbl. Atlantic Refining Co. and Osage Drilling Co.'s No. 2-A Riley, 5,110-5,295 ft., 849 bbl.

In the Wasson field Amon G. Carter's No. 3-A Moore, 4,890-5,043 ft., 579 bbl. Continental Oil Co.'s No. 1-45 W. M. Moore, new total depth of 5,040 ft., new initial production 425 bbl., (old well drilled deeper). Continental Oil Co.'s No. 3-46 W. M. Moore, 4,912-5,008 ft., 982 bbl. Humble Oil & Refining Co. and Texas Pacific Coal & Oil Co.'s No. 2 Haun, 5,112-5,270 ft., 601 bbl.

Crane County

In the Sand Hills field Humble Oil & Refining Co.'s No. 34 Tubb, 4,230-4,420 ft., 343 bbl.

Upton County

In the McCamey field Harvey-Sergeant-Rutter's No. 8-A Cordova-Union, 2,191-2,284 ft., 397 bbl. Harvey-Sergeant-Rutter's No. 9-A Cordova-Union, 2,240-54 ft., 498 bbl.

Scurry County

In the Sharon field Helmerich & Payne, Inc.'s No. 2 Martin, 2,374-2,501 ft., 120 bbl. Helmerich & Payne, Inc.'s No. 3 Martin, 2,375-2,485 ft., 100 bbl.

Loving County

In the Wheat field Stevens & Porty's No. 1 A. C. Chapman, 4,205-77 ft., 46½ bbl.

Ward County

In the Sealy field Sinclair Prairie Oil Co.'s No. 22 Archenhold, 2,500-3,044 ft., 316 bbl. Sinclair Prairie Oil Co.'s No. 23 Archenhold, 2,532-3,025 ft., 324 bbl. McQueen & Clevenger's No. 4 Sealy, 3,038-67 ft., 2,728 bbl.

In the Hutchins field Gulf Oil Corp.'s No. 135 Hutchins, 2,552-2,738 ft., 1,125 bbl.

Yoakum County

In the Wasson field Aloco Oil Co.'s No. 4 Greer, 4,943-5,219 ft., 1,155 bbl. Aloco Oil Co.'s No. 5 Hovencamp, 4,932-5,127 ft., 2,042 bbl. Aloco Oil Co.'s No. 8-A A. Miller, 4,968-5,154 ft., 1,166 bbl. Aloco Oil Co.'s No. 1 W. D. Moore, 4,975-5,240 ft., 918 bbl. Aloco Oil Co.'s No. 4 Carter Wilder, 4,900-5,165 ft., 1,527 bbl. Aloco Oil Co.'s No. 2-B Willard, 4,958-5,208, 745 bbl. Helmerich & Payne, Inc.'s No. 1 Bennett, 5,130-5,265 ft., 314 bbl. Honolulu Oil Corp.'s No. 3-825 Kendrick, 4,900-5,150 ft., 893 bbl. Honolulu Oil Corp.'s No. 5-804 Wilder, junked and abandoned at 4,815 ft. and skidded 100 ft. east for No. 5-X-804 Wilder. Honolulu Oil Corp.'s No. 7-824 Wilder, 4,940-5,158 ft., 776 bbl. Honolulu Oil Corp.'s No. 6-741 Willard, 4,985-5,215 ft., 1,069 bbl. Mabee Oil & Gas Co.'s No. 21 Willard, 4,940-5,195 ft., 1,103 bbl. Magnolia Pet. Co.'s No. 6-867 Kendrick, 4,920-5,100 ft., 1,382 bbl. Oil Development Co.'s No. 2-761 fee, 4,959-5,200 ft., 1,155 bbl. Oil Development Co.'s No. 9-803 fee, 4,926-5,200 ft., 1,575 bbl. Oil Development Co.'s No. 11-803 fee, 4,980-5,230 ft., 1,687 bbl. Osage Drilling Co.'s No. 4 Clawater, 5,030-5,235 ft., 421 bbl. Shell Oil Co., Inc.'s No. 6-B Baumgart, 4,790-5,188 ft., 729 bbl. Sloan & Zook and T. N. Sloan's No. 1 J. E. Fitzgerald, wildcat in extreme northeast corner of county, dry and abandoned at total depth of 5,658 ft. after topping the anhydrite at 2,320 ft., Brown lime at 3,902 ft., solid lime at 4,300 ft. Tide Water Associated Oil Co.'s No. 3-A Kendrick, 4,925-5,130 ft., 950 bbl.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Feb. 5.—Development of another of Stephen County's new areas discovered late in 1939 was seen during the past week as two outpost locations were made. The area was opened by George E. Fagg's No. 1 Richardson late in December for an estimated 300 bbl. of oil daily for the deep Caddo lime. George Fagg's discovery well was only last week given its official gage, 231 bbl. of oil with 4 per cent water and 1,171,000 cu. ft. of gas daily. Production was from 3,888 to 3,944 ft., total depth. The discovery well is located in Section 5, Block 3, S.P. Survey.

During the past week a 1¾-mile north outpost and 1½-mile northwest outpost were staked to the pool opener. First location for the area was by Panhandle Refining Co. which staked No. 1 Frank Magers in the SE¼ Section 1, Block 3, S.P. Survey, 1¾ miles north of Richardson's discovery well. The test was staked on a 640-acre tract farmed out to Panhandle for drilling from an original block of 1,000 acres assembled by E. T. Hart, Jr., Fort Worth. Late in the week Jones Drilling Co. of Dallas announced a location in Section 3, Block 3, S.P. Survey, on acreage farmed out from Gulf Oil Corp. The farmout consists of the southeast quarter of the section. This second test is about 1½ miles northeast of the discovery well.

In Eastland County the completion of the second test in the mile extension area to the West Scranton pool has been delayed. The well is Little & Bennett's No. 1 Burl Clinton, north offset to the same operator's No. 1 Ledbetter which extended the area. Bottomed at 1,724 ft., the indicated producer is expected to make as good a well as its offset which was gaged at 117 bbl. in 24 hours.

Two new semiwildcat tests have been started in Coleman County. Anzac Oil Corp. of Coleman announced location for No. 1 J. B. McCord, 2,200 ft. from the east and 2,196 ft. from the south lines of the B.B.B.&C. Survey, 5 miles northwest of Coleman. Robertson & Bradford of Haskell plan to move in rotary for their No. 1 Morris, 330 ft. from the north and 1,582 ft. from

(Continued on Page 80)

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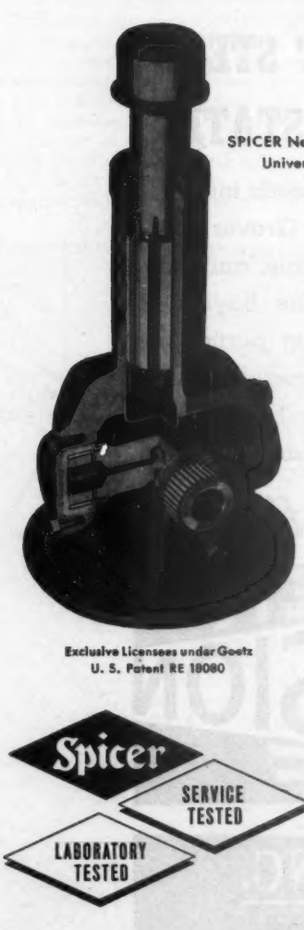

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Texas and Louisiana Gulf

By NEIL WILLIAMS

New Horizons Productive in Two Coastal Louisiana Pools

HOUSTON, Tex., Feb. 5.—Opening production from new horizons in two proven fields in coastal Louisiana, testing of important wells, and the announcement of several important wildcats, featured developments in the Gulf Coast district the past week.

Gulf Oil Corp. opened a new producing horizon in the Grand Bay field, Plaquemines Parish, coastal Louisiana, with the completion of No. 6-A Grand Prairie Levee District, which is flowing pipe-line oil from perforated casing opposite oil sand at 9,980-90 ft. The well is in Section 17-20s-10e, on the northwest flank of the structure, and the completion opens the sixth producing zone in the field. Other wells are producing at intervals from 6,100 to 9,900 ft.

Superior Oil Co.'s No. 1 Schwing opened production from a new sand on the west flank of Bayou Blue dome, Iberville Parish. Salt, topped at 6,670 ft., was cored to a total depth of 6,802 ft., and the well was completed through perforated casing opposite oil sands at 5,000-17 ft. and 5,025-30 ft. During the first 24 hours the well flowed 173 bbl. through an 11/64-in. choke, with tubing and casing pressure ranging from 500 to 700 lb. With the exception of one well drilled on the north flank by Humble Oil & Refining Co., all production developed has been from the Pliocene and Miocene sands between 1,700 and 3,700 ft.

Tide Water Associated Oil Co. opened the seventh producing horizon on the Venice dome, Plaquemines Parish, as No. 11 Manhattan Land & Fruit Co., flowing 224 bbl. per day through ⅛-in. choke. The well was drilled to a total depth of 7,822 ft., and production was obtained by perforating casing at 7,670-7,704 ft. Location is in Section 35-21s-30e.

On the east flank of the Starks field, Calcasieu Parish, W. T. Burton and others are attempting to test No. 1 Industrial Lumber Co. which has shown indication of opening production from a deep sand. The well is bottomed at 7,416 ft., and screen is being set to test sand at 7,315-49 ft. Sand showing high gas pressure was also logged at 7,215-27 ft.

Drilling activity in the active Golden Meadow field, La Fourche Parish, was temporarily shut down following the blowout of Bennett Oil & Refining Co.'s No. 1 Philozate Authement which blew oil and mud over the townsite of Golden Meadow, causing schools to close and many families to evacuate their homes. This well was completed the latter part of January in sand at 8,360-8,400 ft. At the close of the week the well had not ignited.

On the Bay Brussel prospect, La Fourche Parish, Tide Water Associated Oil Co. continues to test No. 1 Delta Farms. The latest test was made through perforated casing at 8,908-18 ft., and on a 20-minute drill-stem test, 2 joints of distillate was recovered. The perforations have been squeezed off and the company will reperforate the casing a little lower.

In Cameron Parish, Phillips Petroleum Co.'s No. 1 Miami Corp., Section 11-14s-6w, is fishing for stuck drill stem as the result of an attempted blowout at a total depth of 10,195 ft. Details of the core record and electrical survey were not available.

Another wildcat which has attracted attention is Gulf Oil Corp.'s No. 1-D Buras Levee District, Section 6-23s-31e. Seven-inch was cemented on bottom at 10,031 ft., after the hole started heaving and flowing salt water. While an electrical survey failed to record any showings of oil or gas, such showings were noticed in the ditch.

On the Erath prospect, Vermilion Parish, Texas Co.'s No. 1 Vermilion Parish School Board, Section 16-13s-4e, cored salt-water sand at 10,659-79 ft., and is drilling ahead in shale below 10,801 ft. The well is credited with having cored a 60-ft. sand section showing distillate below 10,400 ft.

Plymouth Oil Co.'s No. 1 McHugh, Bayou Pigeon area, Iberia Parish, is shut down for fuel at 9,032 ft. It looms as the discovery well of a new field, as drill-stem testing in three sand sections below 7,200 ft., recovered pipe-line oil.

The Barataria field, Jefferson Parish, received its second producer as Gulf Oil Corp.'s No. 1 Joseph Rathborne, a south offset to the discovery, flowed 110 bbl. of pipe-line oil in 6 hours. Sand showing oil topped at 8,200 ft. was cored to a total depth of 8,210 ft. and 7-in. casing was cemented at 8,195 ft.

Along Texas Coast

Along the Texas coast, Humble Oil & Refining Co. was testing No. 1 Bassett Blakely at the Danbury dome, Brazoria County. Broken sand and shale with an oil and gas show was logged at 5,698-5,713 ft., the total depth, and 7-in. casing was cemented at 5,678 ft.

In the Chocolate Bayou field Glenn McCarthy's No. 2 Houston Farm Development Co., northwest of the discovery well, is coring in shale and sand below 10,558 ft. An electrical survey showed seven sand sections at intervals from 8,885 to 10.245 ft. Casing, 7⅝-in., was recently cemented at 10,502 ft.

Stanolind Oil & Gas Co.'s No. 1 Giles, the first operation to be started by the company in the Old Ocean field, Brazoria County, was completed as one of the best producers in the field. Located east of production in the Charles Breen Survey, the well was completed through perforated casing at 10,077-10,117 ft., for an initial production of 601 bbl. of 37.5-gravity oil daily flowing through ¼-in. choke. Tubing pressure was 1,250 lb.

Location for another wildcat on the Mustang Mound prospect, Brazoria County, was announced by S. E. W. Oil Co. for No. 1 Van Werdon in the A.C.H.&B. Survey.

The Rosenberg field, Fort Bend County, was extended about 2,000 ft. southwest as Fred Browning's No. 1 Socha flowed an estimated 50 bbl. of amber-colored distillate daily through a ¼-in. choke. Tubing pressure was 1,350 lb. and shut-in casing pressure 2,750 lb. After testing salt water and a small amount of distillate on two production tests at 8,160-85 ft., the hole was plugged back and the well completed in the discovery horizon at 7,713-34 ft. Northwest of the discovery well, Humble Oil & Refining Co.'s No. 1 Miller looms as a failure as the well is coring in shale below 7,727 ft., and no shows of oil or gas have been reported.

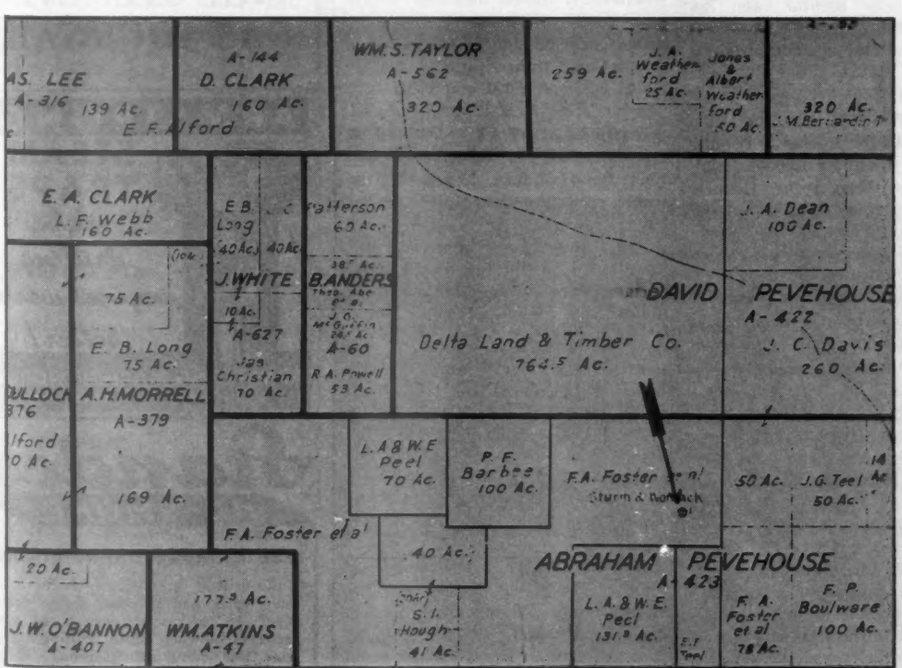
Outpost Failures

Approximately 3 miles northwest of the above field Magnolia Petroleum Co. abandoned No. 1 Huntington after a series of production tests at intervals from 8,000-8,600 ft. showed distillate and salt water. The most recent test made through perforated casing at 8,035-42 ft. tested 49 bbl. of fluid of which 75 per cent was salt water and the balance distillate.

Superior Oil Co.'s No. 1 E. H. Seidel, the most northerly test in the West Ranch field, Jackson County, and just south of the Vanderbilt townsite, was abandoned as a dry hole after two production tests in the 5,600 and 5,700-ft. horizons showed salt water. Total depth of the hole is 6,321 ft.

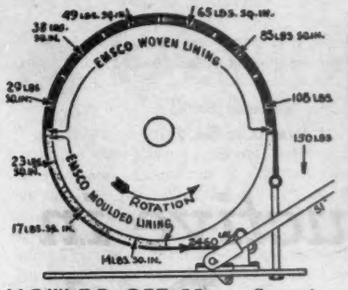
Drilling was scheduled to be started on three wildcats in Wharton County. O. C. Garvey staked locations for No. 1 T. N. Menefee and No. 1 M. D. Stockton in the S. P. Middleton Survey. Magnolia Petroleum Co. is reported to be moving in material for No. 1 C. Swanson in the E.T.R.R. Survey No. 39, while in the Lissie area Strake Petroleum Co. let contract for a 10,000-ft. test to be located on the Winnie Pool lease, Section 25, G.H.&H. Survey. The well is situated ¼ mile north of Sun Oil Co.'s No. 1 Poole, temporarily abandoned at 7,399 ft., and about 1 mile north of the company's No. 1 Strunk, which was abandoned at a total depth of 9,469 ft.

(Continued on Page 83)



Zingery Map Co., Houston

Willis area, Montgomery County, Texas, showing location of Ralph Sturm and Morris Womack's No. 2 Foster estate, which logged gas and gas distillate showings in the Tertiary Wilcox formation



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Among the Drilling

BASS DRILLING CO., Dallas, Tex., will drill for the firm of Champlin & Bass, Inc., a wildcat test staked approximately 1¾ miles northwest of production on the northwest side of the Means pool in Andrews County, West Texas. The test is No. 1 L. McQuatters, located 660 ft. from the north and east lines of Section 20, Block 34-A, P.S.L. Survey. The location is a mile west of a lone outpost producer north of the pool proper.

OLSON DRILLING CO., Tulsa, has been granted permits for three tests on recently acquired acreage in the Wasson pool of southern Yoakum County, West Texas. The firm will drill its No. 7 Oil Development 440 ft. from the south and east lines of Section 801, Block D, Gibson Survey. The No. 9 will be a west offset to the No. 8 while the No. 10 will be six locations west and one location north of the No. 9 Oil Development.

RATHKE DRILLING CO., Wichita Falls, Tex., has been given contract for a deep 4,000-ft. wildcat test in Stephens County, West Central Texas. E. T. Hart, Jr., Fort Worth, assembled the block and farmed out 640 acres to Panhandle Refining Co. for the deep test. Location is in the Frank Magers farm, SE¼ Section 1, Block 3, S.P. Survey. It is about 1½ miles north of deep production opened several months ago by George E. Fagg. The wildcat has been spudded and is drilling below 250 ft.

TOM F. HUNTER, Wichita Falls, Tex., will drill for Roeser & Pendleton of Fort Worth, a 5,000-ft. wildcat test in northern Archer County, Texas, and 1½ miles southeast of the Hull-Silk pool. Test will be in the J. R. Parkey lands, southwest corner of the north 475 acres of Section 11, Block 3, H.&T.C. Survey. Roeser & Pendleton acquired the acreage last month for $95,000, half being cash and half being out of oil to be produced.

BIG WEST DRILLING CO., Tulsa and Dallas, is drilling the third deep test to the 5,200-ft. pay recently opened in the Rogers and Rogers pool of Montague County, North Texas. It is being drilled for Stanolind Oil & Gas Co., discoverer of the deep horizon, and is the company's No. 2 Zachary. The new test is located 330 ft. from the south and west lines of the Zachary lease in the Jacob Lenow Survey. It is approximately ¼ mile northwest of the Sunray Oil Co.'s No. 1 Burnett which recently was completed to extend the 5,200-ft. Caddo-lime horizon almost a mile to the south.

ED DeARMAN, Tyler, Tex., has received contract for a test in the Flag Lake pool of Henderson County, eastern Texas, from Harry Hines and associates. It is the No. 1 Humble-Dillard, Henry Nefferies Survey, in the Terrapin Ridge sector of the pool. Surface casing was to have been cemented 2 weeks ago but wintry weather prevented. With the lines thawed out progress is to be resumed early this week.

J. B. DANIEL, Fairfield, Tex., has staked and will drill with his own tools, a wildcat test in the south western corner of Van Zandt County, eastern Texas. Location is in the northeast corner of the 130-acre Mark Guill tract, J. Garcia Survey. It is some 4 miles east and slightly north of Mabank. Starting date was not announced.

FRED LAUSEN, Gainesville, Tex., will drill Big Indian Oil & Development Co.'s second exploratory hole on its block about 5 miles south of Gainesville in Cooke County, North Texas. The contractor has derrick up and machinery on location for No. 1 T. E. McFadden, D. Martin Survey, Abstract 654. The site is approximately three locations southeast of the company's recently abandoned No. 1 Morton which indicated production from three separate levels between 2,000 and 2,600 ft.

HARRY L. EDWARDS DRILLING Co. extended the Rosenberg field, Fort Bend County, Texas, to the southwest with the completion of Fred Browning's No. 1 Socha, completed through perforated casing at 7,713-34 ft. for an estimated daily production of 50 bbl. distillate, flowing through a ⅛-in. choke.

JOHN CAMP DRILLING CO. of San Antonio, Tex., is reported to have received contract for drilling approximately 20 wells between the South Agua Dulce and Stratton fields in Nueces County, Texas. The contract was received from the Great Plains Corp.

ROWAN DRILLING CO. opened another producing horizon at the Venice dome, Plaquemines Parish, coastal Louisiana, with the completion of Tide Water Associated Oil Co.'s No. 11 Manhattan Land & Fruit Co. The well was drilled to a total depth of 7,822 ft., and was completed

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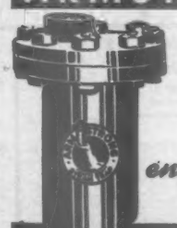
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through perforated casing at 7,778-94 ft.

CROSBY DRILLING CO. is moving a rig to the Lissie area, Wharton County, Texas, for Strake Petroleum Co.'s No. 1 Winnie Poole, a projected 10,000-ft. wildcat located in Section 25, G.H.&H. Survey.

SUMMIT DRILLING CORP., Tulsa, and community associates at No. 1 Cleer, in CW½ SE SW Section 6-15-5e, 6 miles northwest of the Davenport field, in Lincoln County, Oklahoma, spudded to 86 ft. and was shut down for water.

HELMERICH & PAYNE, INC., Tulsa, and others' No. 1 McMahon, in SW cor. SE¼ Section 31-17-1e, south of the Coyle pool, in Logan County, Oklahoma, has been drilling below 1,000 ft.

SMITH BROTHERS Drilling Co.'s No. 1 Hanifan, IN SE NE NW Section 24-11-4e, in the North Shawnee pool, in Pottawatomie County, Oklahoma, has been rigging up rotary equipment.

H. & M. DRILLING CO. in drilling No. 1 Myers in the CNE NW Section 24-19-24, in the Ritz-Canton pool of McPherson County, Kansas, had 700 ft. of oil in the hole from the chat at 2,955 ft. The hole is scheduled to be drilled deeper.

TRIANGLE DRILLING CO., of Shreveport, La., is completing a prospective oil well for a northeast extension to the Sugar Creek field of Claiborne Parish, North Louisiana. The well, Sugar Creek Syndicate's No. 1 Robinson has saturated oil sand in the Travis Peak formation and will be the field's fourth producer when completed.

DELTA DRILLING CO. is retesting No. 1 Grace, a Union County, Arkansas, wildcat located east of El Dorado. The test, bottomed at 6,819 ft., has prospective production in the Cotton Valley and Smackover formations. Other Delta rigs are active in West Texas and Indiana.

H. L. HUNT is drilling below 6,000 ft. in the Hunt and Arkansas Fuel Oil Co.'s No. 1 Goodpine, a North Louisiana wildcat located east of Urania in La Salle Parish.

DAVIS DRILLING CO.'s No. 1 Chandler, in NW NE SW Section 35-5-7e, in the East Ada district, in Pontotoc County, Oklahoma, was bailing in. The Gilcrease was topped at 2,390 ft. and the hole bottomed at 2,410 ft. with free oil standing in the hole.

TRINITY DRILLERS, INC., is starting a new operation in the Victoria field, Victoria County, Texas, following the completion of George Greer's No. 1 Rosie King, which was completed as a gas well.

TAYLOR DRILLING CO.'s No. 3-A Heiss, just east of Fairview Park, NW NE Section 13-1n-1w, Centralia field, Illinois, set casing after recovering excellent Devonian saturation.

Day crew for Nicklos Drilling Co. on Continental Oil Co.'s No. 1 David Moore near Abbeyville, La. Left to right: Bob Anderson, J. W. Miller, Milton Pesson, W. H. Neely (driller), T. M. Riley, Dewitte Sittig

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Southwest Texas District

By
F. L. SINGLETON

New Pool in Refugio County Produces High-Gravity Oil

CORPUS CHRISTI, Tex., Feb. 5.—C. L. Norsworthy's No. 1 B. J. Fox, a wildcat 5½ miles southeast of Inari, Refugio County, assured the Southwest Texas district of a new oil field as screen was being run for completion after the well flowed pipe-line oil on a drill-stem test.

Drilled to a total depth of 6,715 ft., 5½-in. casing was cemented at 5,950 ft., after an electrical survey and sidewall cores showed favorable indications. Casing was perforated at 5,895-98 ft., and on a 20-minute drill-stem test, 1,620 ft. of 40-gravity oil was recovered, and working pressure built up to 1,125 lb. Bottom-hole pressure was 2,800 lb.

The well was drilled on a farmed-out lease from Gulf Oil Corp., 2½ miles south of the McFaddin field, and is on the same strike with such fields as Greta, McFaddin and Tomoconnor. Most of the acreage around the well is held by Gulf Oil Corp., Barnsdall Oil Co., Transwestern Oil Co., Quintana Petroleum Co., and Humble Oil & Refining Co.

Continental Oil Co. uncovered a deep-seated structure in Aransas County although the discovery proved disastrous as the company's No. 1 St. Charles Co., 8 miles northeast of Lamar, blew out, caught fire, and at the close of the week the well was still wild, flowing gas, mud, water and an unestimated amount of 35.7 amber-colored distillate. The well had drilled sand at 9,327-30 ft., and while coming out of the hole with a core cut at 9,330-35 ft., the total depth, the well blew in out of control. It is located in the R. D. Blassman Survey, approximately 8 miles northeast of the Lamar structure discovered in 1937 by Barnsdall Oil Co.'s No. 1 Kate Edwards, which also blew out, and was later temporarily abandoned after showing for a small distillate producer at a total depth of 7,996 ft.

In Victoria County, about 8 miles south of the town of Victoria, Renwar Oil Corp. is reported to have cemented casing preparatory to testing No. 1 Bayer. The hole is bottomed at 6,485 ft., and casing was cemented to test several sands logged by an electrical survey and sidewall cores. Sands to be tested were logged at intervals from 5,685-5,800 ft.

Two miles southwest of the Victoria field, L. L. Smith's No. 1-C Stubbs estate, cored sand with an oil showing at 4,767-72 ft. and on a 24-minute drill-stem test at 4,760-75 ft. recovered 1,920 ft. of salt water with no gas pressure. In the field proper, locations for two more wells were announced. W. V. Hardin has rigged up No. 1 William Baars, while Shamrock Oil Co. and others are preparing to spud No. 1 F. W. Vogt. Both wells are in the Victoria Town Tract Survey. J. W. Sewall's No. 1 Fox cored sand with an oil odor at 4,473-80 ft. and on a 15-minute drill-stem test, recovered 1,920 ft. of salt water.

East of the East Telferner field, Victoria County, John Mayo and Thompson Drilling Co.'s No. 1 Ragsdale, V. Garcia Survey, is drilling in shale below 5,225 ft. Sand with an oil show was logged the previous week at 4,510-28 ft. but drill-stem testing failed due to the mechanical trouble.

Equipment was being moved to the Robstown field, Nueces County, for Fred W. Shield and others' No. 1 H. A. Nichols, ¾ mile from the discovery well in the J. L. de Herrera grant. The well is 330 ft. from the south and east lines of Tract 4, Paul's 100-acre tract, subdivision of the Driscoll ranch. Two wells recently drilled northeast and southwest of the discovery were abandoned as dry holes.

In the Wade City field, Jim Wells County, Rodney De Lange and others have rigged up No. 2 McNeill, 1,320 ft. east of No. 1 McNeil in the Benito Lopez de Jaen grant. In the Magnolia City field, V. J. Meyers' No. 3 Reynolds perforated casing at 5,614-24 ft., and the well flowed 40 bbl. of distillate and 1,600,000 cu. ft. of gas daily through an 11/64-in. choke. Tubing pressure was 1,000 lb., and casing pressure 2,150 lb.

Additional drilling between the Sweden and Benavides field, Duval County, is anticipated following the completion of Hiawatha Oil & Gas Co.'s No. 1-A Herberger for an estimated daily production of 50 bbl. of distillate flowing through a 5/32-in. choke under a casing pressure of 1,890 lb. and tubing pressure 1,820 lb. The hole is bottomed at 5,875 ft. and production was obtained by perforating casing in sand at 5,864-72 ft.

Richard King Field Extended

The Richard King field, Nueces County, was extended about 1 mile south with the completion of Southern Minerals Corp.'s No. 14-B King, completed through perforated casing at 5,653-59 ft. for a reported initial production of 150 bbl. daily, flowing through a ⅛-in. choke.

Midway between the Kelsey and Sun fields and in Starr County, Sun Oil Co.'s No. 1 Rodriguez is drilling in shale below 5,226 ft. In the Sun field and approximately 1,000 ft. from production, Sun Oil Co.'s No. 6 Speer is reported to be flowing into the pits from a total depth of 4,969 ft. No gage was available.

Tide Water Associated Oil Co.'s No. 7 Bruni, a deep test located in the old Bruni field, Webb County, is shut down after flowing 1 bbl. of 43.4-gravity oil per hour and some salt water through a 3/32-in. choke. Tubing pressure is 430 lb. and casing pressure 350 lb. This well was drilled to the Wilcox sand at a total depth of 8,959 ft. and was completed in the Queen City formation through perforated drill pipe at 5,620-30 ft. This is the first production developed from this horizon in the Laredo district, and the showing is expected to result in deeper drilling in many of the shallow fields located along this old shore-line trend.

In Zapata County J. P. Martin and others' No. 1 Vela, El Grullo grant, is being watched with interest as sand and sandy shale with an oil odor is reported to have been cored in a side-tracked hole at intervals from 2,874-2,971 ft.

Along the Balcones fault line district A. J. Hollifield's No. 1 D. M. Day, Guadalupe County, is reported to be flowing by heads an estimated 18 bbl. of oil per hour after an acid treatment of 2,000 gal. This well was drilled to the Edwards lime at a total depth of 2,692 ft., and was plugged back and completed in the Austin chalk at 2,415 ft. The completion opens a new field, about 2 miles from the town of Luling in the James Hinds Survey.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Duval County

Cedro Hill field: Magnolia Petroleum Co.'s No. 19 Duval County Ranch Co., sand 1,438-43 ft., 40 bbl., pumping. Hoffman field: Cuellar Brothers Oil Co.'s No. 11 fee, sand 2,828-44 ft., 25 bbl., jetting.

Guadalupe County

Elm Creek field: J. E. West and others' No. 2 Lentz, 769 ft., 13 bbl., pumping. E. A. Weyel's No. 1 Thomas, 793 ft., 9½ bbl., pumping.

Jim Hogg County

Colorado field: Humble Oil & Refining Co.'s No. 8 Atwood, 3,086 ft., 75 bbl., ⅞-in. choke.

Live Oak County

White Creek field: Brauer and others' No. 8 Gayle, perforated casing 1,442-53 ft., 102 bbl., pumping.

Jim Wells County

Ben Bolt field: Foster & Reynolds' No. 1 Stacey, perforated casing 5,244-50 ft., 328 bbl., ⅞-in. choke. Magnolia Petroleum Co.'s No. 2 Elizando, 5,473 ft., dry and abandoned.

McMullen County

Munson field: Graham Brothers Oil Co.'s No. 15 Nueces Land & Livestock Co., sand 1,214-23 ft., 44 bbl., pumping.

Nueces County

Minnie Bock field: Phillips Petroleum Co.'s No. 2 Gandy, perforate casing 3,818-22 ft., 140 bbl., 5/32-in. choke. Reed & Cox's No. 2 Parr, perforated casing 3,814-24 ft., 85 bbl., 11/64-in. choke. Clara Driscoll field: O. W. Killam's No. 3 Holmes, perforated casing 5,555-70 ft., 85 bbl., 11/64-in. choke.

San Patricio County

East White Point field: Houston Oil Co.'s No. 7 Baldwin, perforated casing 4,923-26 ft., 113 bbl., ⅛-in. choke. Midway field: Fred Wood and others' No. 1 Floerke, 5,360 ft., dry and abandoned.

Starr County

Barbacoas field: R. S. Dean's No. 1-A Starr County, perforated casing 2,843-47 ft., gas well. Kelsey field: Humble Oil & Refining Co.'s No. 45 McGill, 4,734 ft., 151 bbl., 9/64-in. choke. Rincon field: W. R. Davis & Co.'s No. 2-A Slick, perforated casing 3,993-4,030 ft., gas well.

Victoria County

Victoria field: W. Boyle Stewart's No. 1 Meyer, perforated casing 4,775-80 ft., 22 bbl., pumping and flowing.

Webb County

Adami field: Dan Purvis' No. 3 Adami, sand 1,002½-04 ft., 43 bbl., pumping. Magnolia Petroleum Co.'s No. 18 Volpe, sand 2,460-70 ft., 13½ bbl. per hour, ½-in. choke. Magnolia Petroleum Co.'s No. 19 Volpe, sand 2,473-81 ft., 75 bbl., ½-in. choke.

Zapata County

Mirando Valley field: Buffalo Oil Co.'s No. 23-C Hinnant, sand 1,990-2,020 ft., 118 bbl., ⅝-in. choke. Interstate Minerals, Inc.'s No. 27 Lopez, 1,759 ft., 268 bbl., 1½-in. casing choke. Interstate Minerals, Inc.'s No. 30 Lopez, sand 1,777-85 ft., 144 bbl., jetting.

Ohio Fields

(Continued from Page 67)

others' No. 1 Ed A. Sterling, Section 8, had a small showing of oil in the Berea at 750-57 ft., abandoned.

In Knox County, Howard Township, N. T. Shorts and others' No. 1 A. A. Gardner, Lot 16, first quarter, made 700,000 cu. ft. of gas open flow and 7 bbl. of oil the first day from the Clinton at 2,719-34 ft. The well had not been shot. In Jefferson Township, David Shaffer's No. 1 S. C. Farquaker, Section 8, was abandoned at 3,050 ft. after testing an oil showing in the Clinton.

Newark pool, Licking County, Newton Township, two gas wells were completed in the Newburg horizon. Allen Willey's No. 3 Fred Eshelman, fourth quarter, is good for 500,000 cu. ft. open flow, sand at 2,157-75 ft. Ohio Fuel Gas Co.'s No. 1 Dewitt Hansberger, fourth quarter, has an open flow of 700,000 cu. ft. of gas at 2,196-2,207 ft.

In Monroe County, Franklin Township, A. E. Robinson and others' No. 1 Ivan Miracle, Section 15, was dry in the Berea at 1,785 ft. It was plugged back to the Salt sand at 820-44 ft. and completed as a small gas well.

In Seneca County, Pleasant Township, Stevens & Kiner's No. 1 A. Abbot, Section 29, was abandoned after drilling 150 ft. into the Trenton lime.

Kansas Developments

By
DAL DALRYMPLE

Hugoton Pipe-Line Loan Has Tentative Approval by R.F.C.

Pool extensions and wildcat operations shared interest of Kansas oil operators the past week with the announcement that the Reconstruction Finance Corp. had approved tentatively an application for a loan of $11,500,000 to finance in part construction of a 1,000-mile pipe line from the Hugoton gas field to Minnesota.

Plans for the natural-gas pipe line were announced several months ago by the Kansas Pipe Line & Gas Co. It will run from the Texas Panhandle and Hugoton fields across Kansas, Nebraska, South Dakota and Minnesota to the Mesabi iron range in the latter state. It would be tapped by lateral lines serving nearby communities and industries in the states traversed. It will supply an outlet for 120,000,000 cu. ft. of gas daily. Cost of the project is estimated at $23,000,000, half of that amount being financed by private parties. Final approval of the loan by R.F.C. was said to be contingent upon submission of detailed plans for the entire financing. The company, it was said, planned to spend about $3,000,000 of the total in developing new gas reserves in the Hugoton and Panhandle areas.

Trapp Area Enlarged

The Barton County sector of the Trapp pool was extended ½ mile eastward at A. G. Kaiser, Alden Braniue and Sharon Drilling Co.'s No. 1 Leurman, C S½ NE SE Section 18-16-13w, about 2 miles northwest of Susank. Arbuckle lime was topped at 3,359 ft., and penetrated to 3,363 ft., total depth, with good saturation found in rotary cuttings. Seven-inch casing was cemented on top of the Arbuckle zone preparatory to testing.

The Bornholdt pool in McPherson County also apparently was due to be extended at Bradley Brothers and others' No. 1 Mattson, C S½ SE SW Section 19-20-5w, ¼ mile north of production. It found chat at 3,289-90 ft., total depth. Casing was to be run and cemented for completion.

The Big Creek pool in Russell County was extended ¾ mile southeastward at Hayes, Potter & Cramm's No. 1 Vonfeldt, NW cor. Section 6-15-14w. It topped Lansing lime at 2,971 ft., was bottomed at 3,075 ft., and made initial daily potential of 619 bbl. of oil.

Albert Area Extended

J. A. Aylward and Vernon Oil & Gas Co.'s No. 1 Bird, C SE NW Section 33-18-15w, extended gas production in the Albert area, Barton County, ¾ mile southward. It is 2 miles from nearest oil production in that field. Basal sand was topped at 3,499 ft., total depth 3,509 ft. Gas gaged 2,000,000 cu. ft. daily and it was flowing 5 bbl. of oil an hour, according to field reports.

Marshall & Black's No. 1 Weber, NE NE SE Section 14-16-12w, south offset to the discovery well in the Coal Creek pool, Barton County, was nearing completion. Arbuckle lime was topped at 3,345 ft., total depth 3,350 ft., it was acidized and was reported flowing 50 bbl. of oil an hour.

Howard Brunson and others' No. 1 Wondra, CWL SW NE Section 15-17-12w, wildcat northwest of Odin in Barton County, was shut down with a hole full of water from Arbuckle lime at 3,325 ft. It was expected to be plugged back to test a showing of oil in Lansing at around 3,130 ft.

North Bornholdt Discovery

Central Petroleum Co. and Springrose Drilling Co.'s No. 1 Swanson, C N½ NW NW Section 18-20-5w, discovery well in the North Bornholdt area, flowed 461 bbl. of oil in 5 hours and made potential of 1,383 bbl. It then made bottom-hole bomb potential of 4,424 bbl. and was completed for maximum top allowable of 3,000 bbl. It found Mississippi chat at 3,304 ft., 5-in. casing was set at 3,306 ft. and it was bottomed at 3,348 ft.

Mitchell Drilling Co. and others' No. 1 Batchelder, CEL SW¼ Section 27-30-6, wildcat in Cowley County, was dry and abandoned in Arbuckle lime at 3,320-50 ft., total depth.

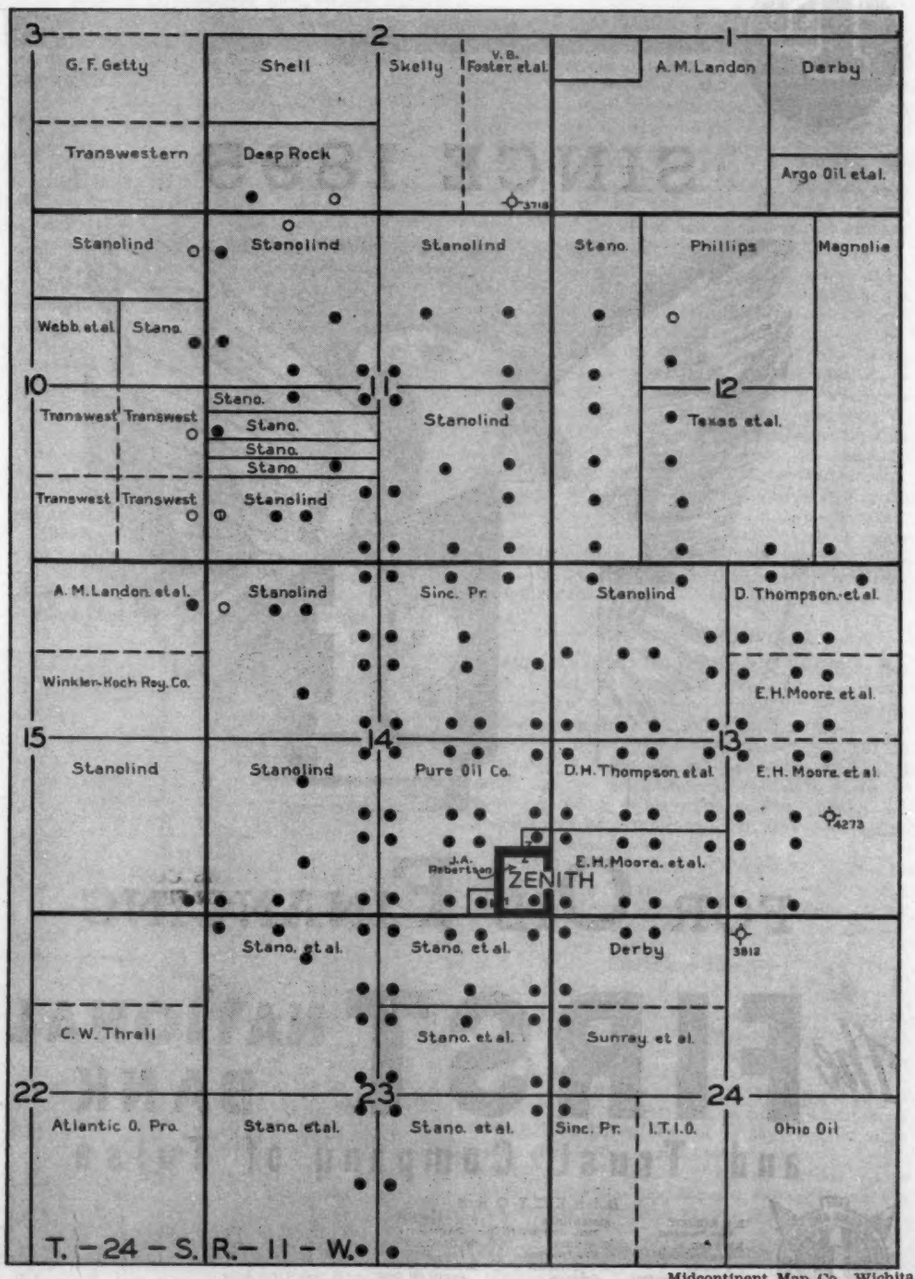
F. G. Holl and others' No. 1 Olsen, NE NE SW Section 6-35-8, wildcat location in extreme southeastern Cowley County, was abandoned.

Cold weather continued to delay completion of wells throughout the Kansas fields, only 19 completions, including 15 oil wells, 2 gas wells and 2 dry holes being reported.

New work showed an increase, however, 27 new starts being reported for the first time. These included five wildcats.

New Wildcat Tests

Lauck & Moncrief and others' No. 1 Ehler, C W½



Midcontinent Map Co., Wichita

Extension of the Zenith field, Stafford County, will be sought at C. W. Thrall's No. 1 McComb, C 5½ NE NE Section 22-24-11w, ½ mile from production. Other n w tests in the northwest part of the field are shown

SW NW Section 35-16-10w, was a new wildcat in Ellsworth County, between the Stoltenberg and Wilkens pools. Cellar was dug.

Midland Oil Co. and others were moving in machine at No. 1 Haines, SE SW SW Section 23-16-4, wildcat in southeastern Dickinson County, south of the town of Herington and north of the Lost Springs pool in Marion County.

S. L. Parks' No. 1 Columbian, NW NW SW Section 12-25-7, wildcat in eastern Butler County and west of the Sallyards trend, was a cellar.

Sunray Oil Co.'s No. 1-A McMillen, C W½ NW NW Section 14-29-2w, wildcat in southern Sedgwick County, north of Clearwater, was building rotary rig.

Marylyn Oil Co.'s No. 1 Burke, NE NE SW Section 27-24-11, wildcat east of the Wiggins pool in Greenwood County, was shut down at 40 ft.

Other First Reports

Five new tests were reported in Ellis County. Dickey Oil Co.'s No. 2 Kollman, C S½ SE NE Section 18-11-17w, was a cellar. Same company was building rotary rig for a test on the Carmichael farm. Cities Service Oil Co.'s No. 9 Callahan, SW SE NW Section 24-11-17w, was a location. Same company's No. 13-B Holl, SW SE NW Section 26-11-17w, was a location. Twin Drilling Co.'s No. 3 Karlin, C SE SE Section 6-12-17w, was drilling below 1,250 ft.

Schermerhorn Oil Co.'s No. 3 Maneth, C E½ NE NE Section 22-18-16w, in Rush County, found saturation at 3,536-43 ft., and was rigging up standard tools at 3,543 ft.

In Russell County W. C. McBride, Inc.'s No. 1 Gregg, NE NE SE Section 24-13-15w, was building rig. Stanolind Oil & Gas Co.'s No. 4 Rein, C S½ SW NW Section 25-14-14w, was a location. Hartman & Blair's No. 2 Boxberger, C E½ E½ NE Section 26-14-14w, was drilling below 2,220 ft. Stanolind Oil & Gas Co.'s No. 2-B Michel, C E½ NW NE Section 36-14-14w, was a location.

Three new operations in Ellsworth County were reported in addition to the wildcat. Hollow Drilling Co.'s No. 1 Janzea, C S½ SW SE Section 18-17-9w, set surface casing. Cities Service Oil Co.'s No. 2 Wessler, C E½ E½ SE Section 19-17-9w, set casing and was waiting on cement at 212 ft. Simpson Oil Co.'s No. 1 Kruse, C E½ NE NW Section 20-17-9w, was a location.

In Rice County, Cities Service Oil Co.'s No. 2 Hathaway, C S½ NE SW Section 27-19-10w, was building rotary rig. Gulf Oil Corp.'s No. 5 Stout, C S½ NW NE Section 6-18-10w, was rigging up rotary. Hipple Oil Co.'s No. 1-B Brown, NE cor. Section 10-21-6w, was drilling below 1,218 ft.

Barton County gained three new tests. Gulf Oil Corp.'s No. 1 Redetzke, SE SE NE Section 19-16-11w, was rigging up rotary. Same company's No. 1 Joseph, NW NW SW Section 29-16-11w, was a cellar. Derby Oil Co.'s No. 4 State, SE SE SW Section 10-20-11w, had dug pits.

Sinclair Prairie Oil Co.'s No. 61 Browning, SW NE SE Section 19-22-10, Greenwood County, was a location.

Deep Rock Oil Corp.'s No. 2 Turner, C S½ SE SW Section 2-24-11w, Zenith pool, set casing and was waiting on cement at 241 ft. C. W. Thrail and others' No. 1 McComb, C S½ SE NE Section 22-24-11w, was building rotary rig. The last named well is about ½ mile southeast of production in the Zenith area, Stafford County.

Estimated Daily Production

Estimated daily production for Kansas for the week ended February 3, and for the preceding week was as follows:

	Barrels	
	Feb. 3	Jan. 27
Oxford City	800	850
Burrton	9,300	9,400
Ritz-Canton	4,350	4,500
Graber	3,500	3,050
Hollow-Nikkel	1,650	1,750
Lerado	550	1,150
Voshell	1,650	1,700
Wellington	2,050	2,150
Ellsworth County:		
Lorraine	1,250	1,500
Other pools	1,305	1,610
Rice-Barton counties:		
Bloomer	4,700	4,400
Chase	4,550	4,300
Geneseo	6,450	5,250
Raymond	500	450
Silica	13,050	11,350
South Silica	2,550	2,500
Keesling	950	800
Wherry	4,650	3,900
Miscellaneous Rice	5,660	4,390
Miscellaneous Barton	6,585	6,030
Trapp district	11,950	12,050
Balance Russell County	20,500	18,800
Sedgwick County	3,300	3,450
Ellis County:		
Bemis	7,700	7,400
Miscellaneous	5,270	4,340
Kingman County	850	830
Stafford County	7,115	8,255
Greenwood County	7,900	8,000
El Dorado	7,250	7,050
Other fields	33,715	26,545
Total Kansas	181,600	167,750

Forest City Basin Activity

ST. JOSEPH, Mo., Feb. 5.—The Falls City area in Richardson County, Nebraska, held attention of Forest City basin operators as one well neared the Viola-lime pay, work was started at one new test and location was announced for another outpost.

The newest test is E. V. Jackson's No. 1 Hill, C NW SW Section 32-2n-16e, north of Falls City and northeast of the discovery well.

Forest City Basin Syndicate's No. 1 Windle, SE NE SE Section 3-1n-15e, west of Falls City, had rig on ground.

Pawnee Royalty Co.'s No. 1 Meyers, C NW NW Section 24-1n-15, southwest of the company's No. 1 Boice discovery well, was reported to have topped Hunton lime at 2,520 ft., had a hole full of water at 2,550-75 ft., drilled to 3,185 ft. and was running 7-in. casing to shut off water and stop shale cavings. Viola lime is expected at around 3,200-50 ft. Information in this well is not verified, as operators are not disclosing data.

Work has started at a new wildcat in the Panhandle area of western Nebraska, at Nebraska Oil Co.'s No. 1 Bonnerland, SE SE SE Section 10-23-49w, far from the Forest City basin. Location is in northern Morrill County, south of the city of Alliance.

In the Kansas sector of the basin, McLaughlin Sons, Inc.'s No. 1 McLaughlin, SW NE NW Section 4-10-20, was underreaming after being delayed by a fishing job for several weeks. It uncovered gas production in Bartlesville sand. Carter Oil Co. is reported to have dropped some of its acreage in the vicinity of a slimhole test it drilled in Section 16-6-19, Atchison County.

T. E. Baldwin and associates were preparing to set casing in their No. 1-A Johnson, NW NE NE Section 21-65-15w, wildcat in Schuyler County, Missouri, near Kirksville. Operations here, as well as at other Mis-

(Continued on Page 83)

Oklahoma Operations

By DAL DALRYMPLE

Sixth Hobart Test Produces; Complete Big Well at Cement

The sixth well in the Hobart pool, Kiowa County, Oklahoma, was near completion and on preliminary tests it gave promise of being one of the larger producers in the area. The new producer is Shell Oil Co., Inc.'s No. 2 Ratliff, SW SE NE Section 19-7-17w. At 1,124 ft. in the pay, it found 181 bbl. of oil in 4 hours. It was deepened to 1,128 ft., got out of control for 20 minutes, then produced 80 bbl. of oil in 1 hour through a 2-in. flow line. There was a big increase in gas in the last 4 ft. of pay. Estimates of production ranged as high as 150 to 175 bbl. an hour.

Casing was set at 1,098 ft. in top of cherty lime. First free oil was found at 1,103 ft., and as the hole was deepened to 1,120 ft., oil started flowing by heads, the yield increasing as the drill went deeper. It is the deepest producer in the field. The pool has an allowable of 800 bbl. of oil daily, but it has no pipeline outlet. The oil is trucked to a loading rack at Gotebo, for shipment to Oklahoma City refineries.

Several fair to middling producers were completed elsewhere in the state. These included a 5,792-bbl. well in the Ramsey pool, Payne County; a 5,029-bbl. well in the Cement field, Caddo County; a 1,060-bbl. producer in the Oklahoma City field, and a 2,483-bbl. well in the St. Louis field, Pottawatomie County.

Only eight of 75 tracts offered at the Kiowa Indian Agency lease sale in Anadarko recently were bought, but high prices prevailed in the bidding. The 8 tracts sold brought a total bonus of $16,240 and advance rentals of $1,500 for the 1,199.66 acres, all in Caddo County. Gulf Oil Corp. paid $26.73 an acre for NW¼ Section 3-5-10w, at the west edge of the Cement field; $16.07 an acre for SW¼ Section 16-8-10w, northwest of Cement; $3.53 an acre for NE¼ Section 16-8-10w, near Gracemont; $2.53 an acre for SE¼ Section 11-6-11w, and $5.11 an acre for W½ SE Section 26-6-11w, southwest of Anadarko. Sinclair Prairie Oil Co. paid $21.30 an acre for SE¼ Section 24-10-13w, and $7.60 an acre for 160.56 acres in Lots 3 and 4 and S½ NW Section 5-10-13w, Eakley district. Carl J. O'Hornett paid $21.26 an acre for NE¼ Section 25-10-13w, Eakley area.

Oklahoma County

Phillips Petroleum Co.'s No. 7 Stiles, NW NW NE Section 34-12-3w, Oklahoma City field, Oklahoma County, was one of the larger producers completed in that field in several months. It found Wilcox sand at 6,408 ft., total depth 6,581 ft., was shot, pumped 1,138 bbl. of oil the first 24 hours and 1,060 bbl. the next 24 hours.

In McClain County Patsy Oil Co.'s No. 2 Richardson, NE SW SE Section 9-5-3e, in the new Byers pool, was building rig.

In Murray County Revel's No. 1 Wolf, C NW SW Section 8-1n-2e, was a rig.

Payne County

Mid-Continent Petroleum Corp.'s No. 13 Ramsey, C S½ N½ NW Section 18-18-2e, Ramsey pool, Payne County, was completed in Wilcox sand at 4,742-55 ft., total depth. It flowed 257 bbl. of oil the first hour and 225 bbl. the next hour, with gas gaging 3,500,000 cu. ft. It was shut in after the 2-hour test, and was rated potentially at 5,792 bbl. of oil daily.

Texas Co.'s No. 2 Carr, C W½ NW NE Section 12-17-1e, Coyle pool, topped Wilcox sand at 4,906 ft., had Marshall zone at 4,941 ft., and was completed as a water-disposal well at 4,951 ft., total depth.

Creek County

Dunn's No. 3 Anthis, NE SE SE Section 34-14-10, East Tuskegee district, Creek County, drilled Wilcox sand at 3,298-3,306 ft., total depth, was shot and pumped 75 bbl. of oil and 10 bbl. of water daily.

Chapman's No. 3 Allen, SW SE SE Section 35-15-10, Slick field, topped Wilcox sand at 3,118 ft., total depth 3,141 ft., plugged back to 3,139 ft., and pumped 44 bbl. of oil daily, cutting 16 per cent water.

Oklahoma Gas Plants' No. 1 Jones, NW SW NE Section 26-18-7, had a hole full of water in sand at 588-601 ft., total depth, and was abandoned.

New operations in Creek County: McAdams & Thornton's No. 2 Fast, NW SE NE Section 36-17-9, location; Wright's No. 16 Bucktrot, CEL SW NE Section 24-17-10, rigging up machine; Link Oil Co.'s No. 2 Mickey, SW SW NW Section 33-18-7, an old well being deepened from 1,409 ft., drilling below 1,685 ft.

Pottawatomie County

Hilton Phillips' No. 1-B Bettis, SE SE SW Section 21-7-4, St. Louis field, Pottawatomie County, was one of the larger producers completed in Oklahoma the past week. It made swabbing potential of 2,483 bbl. of oil in 24 hours, then swabbed 1,460 bbl. in the next 24 hours. Seven-inch casing was set on top of Wilcox sand at 4,312 ft., and the hole was bottomed at 4,318 ft.

Magnolia Petroleum Co.'s No. 4 Brister, SW SW NE Section 28-7-4, topped Wilcox sand at 4,344 ft., total depth 4,350 ft., the hole filled with water, it was plugged back to 4,324 ft., and pumped 54 bbl. of oil and 50 bbl. of water daily.

Smith's No. 3 McDaniels, SW SE NE Section 31-7-5, found Viola lime at 4,068 ft., total depth 4,285 ft., in shale, plugged back to 4,013 ft., perforated and acidized, and pumped 7 bbl. of oil in 24 hours.

Same operators' No. 1 Hines, NW SW NW Section 22-7-4, an old well, was deepened from 3,185 ft., to dolomite at 4,163 ft., total depth 4,490 ft., was perforated and acidized, and pumped 35 bbl. of oil daily.

New work in Pottawatomie County: Alma Oil Co.'s No. 6 Johnson, NW SW SW Section 19-6-5, cellar and pits; Burns' No. 1 Henry, SW SW NW Section 29-7-4, wildcat in the St. Louis district, set 10-in. pipe at 105 ft., waiting on cement; Kerlyn Oil Co.'s No. 1 Askew, NW NE NE Section 17-7-5, old well, rigging up rotary to deepen; Jenkins' No. 2 Smith, SE SW NW Section 21-7-5, rig; Smith's No. 1 Hanifan, SE NE NW Section 21-11-4, rig on ground.

Pontotoc County

Senora Oil Co.'s No. 1 Tucker, SW NE NE Section 35-5-4, an old well in the Bebee pool, Pontotoc County, was deepened from 2,532 ft. to 2,574 ft., in dolomite, acidized and pumped 278 bbl. of oil in 24 hours.

H. & M. Drilling Co.'s No. 7 Harrell, NW NE SE Section 29-5-8, Allen field, had sand at 843-967 ft., total depth, was shot and pumped 60 bbl. of 30-gravity oil in first 24 hours, 45 bbl. in the next 24 hours.

Patterson's No. 1 Huddleston, NE SE SW Section 20-5-8, was an abandoned location.

W. B. Pine's No. 1 Randall, NW SW NE Section 35-5-4, was rigging up rotary. Senora Co.'s No. 3 Tucker, NE SW NE Section 35-5-4, was a location. Minton's No. 3 Harris, SE SE NW Section 35-5-7, was a location.

Okfuskee County

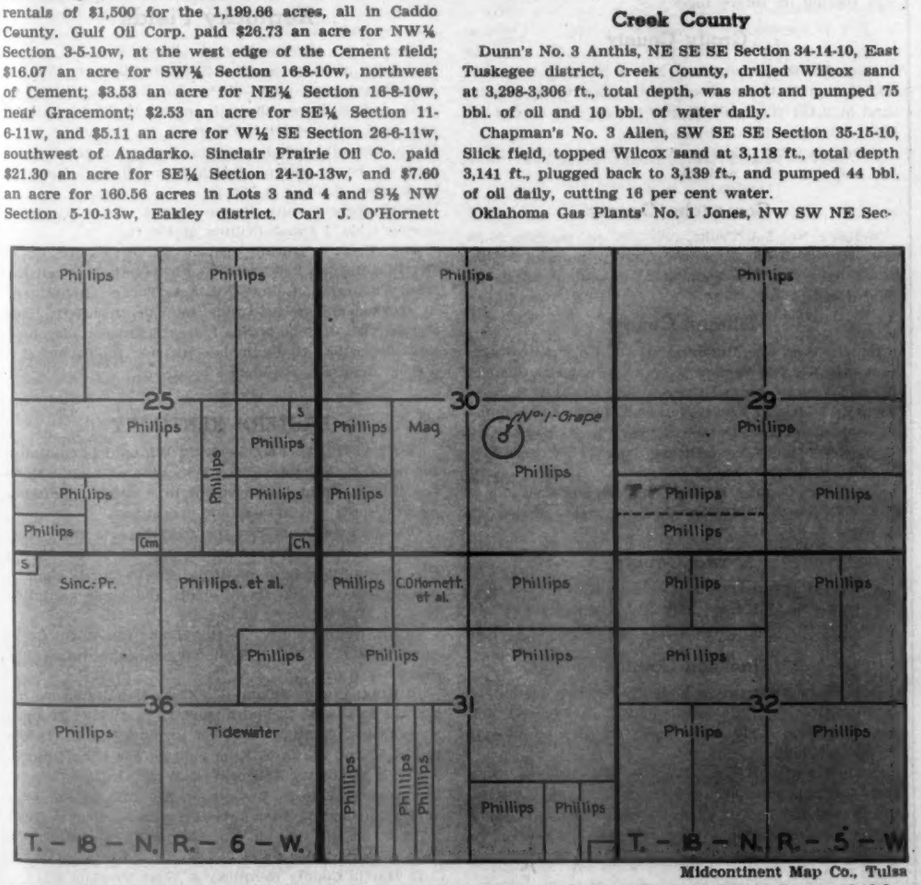
Summitt Drilling Co.'s No. 1 Thompson, SE SW NW Section 18-10-11, Weleetka district, Okfuskee County, had Booch sand at 2,294 ft., total depth 2,310 ft., flowed 476 bbl. of oil in 24 hours through casing and 486 bbl. of oil in 24 hours through tubing.

C. W. Titus' No. 1-A Replogle, C E½ SE NE Section 26-11-8, topped Cromwell sand at 3,478 ft., total depth 3,501 ft., and flowed 105 bbl. of 36-gravity oil in 24 hours, pinched. Gas gaged 4,500,000 cu. ft.

Titus' No. 1 Cornelius, SW SW NW Section 25-11-8, had dug cellar and pits. Summitt Drilling Co.'s No. 3 Stell, NW NE SW Section 18-10-11, was a location.

Seminole County

Phillips' No. 2 Tewee, SW NE SE Section 14-7-6, an old well in the Little River area, Seminole County, was deepened from 4,208 ft. to second Wilcox sand at 4,297



Midcontinent Map Co., Tulsa

Phillips Petroleum Co. was completing water well and rigging up at its No. 1 Grape, C NW SE Section 30-18-5w, wildcat in Kingfisher County

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ft., total depth 4,329 ft., plugged back to 4,308 ft., was shot and pumped 22 bbl. of oil and 3 bbl. of water in 24 hours.

Culver & Shepherd's No. 2 Swan A, NW NW SE Section 3-5-5, had spudded. T. & N. Co.'s No. 2 Reed, SE SE NW Section 3-5-5, was rigging up rotary.

Hughes County

Manahan Oil Co.'s No. 1 Mullie A, SW SW NE Section 23-6-8, Hughes County, was bottomed at 1,400 ft., plugged back to 750 ft., lost hole, and was abandoned.

Same company's No. 1-A Mullie A, SW SW NE Section 23-6-8, was rigging up rotary.

In McIntosh County Acme Oil Co.'s No. 1 Stanford, NE NE SW Section 22-11-14, wildcat east of the Kinta gas field, was a location.

Lincoln County

Yorkan Production Co.'s No. 1 Stewart, SW NE NW Section 15-13-6, Laffoon area, Lincoln County, found Wilcox sand at 4,264-76 ft., total depth, was acidized and pumped 252 bbl. of oil in 24 hours.

Alma Oil Co.'s No. 1 Sedlocek, C N½ NW SW Section 2-12-5, wildcat in the Wilzetta area, had spudded. Black Gold Petroleum Corp.'s No. 1 Cofer, NE SW SW Section 22-14-6, wildcat in the Sac and Fox area, set 10-in. pipe at 60 ft. and was waiting on cement.

Caddo County

Ohio Oil Co.'s No. 13 Pau-Kune, NW SW SE Section 3-5-9w, Cement field, Caddo County, topped Rowe sand at 3,369 ft., total depth 3,465 ft., casing was perforated, it flowed 838 bbl. of oil in 4 hours and made daily potential of 5,029 bbl. Gravity of the oil was 34°.

Ray Stephens, Inc.'s No. 3 Funk, SW SE SE Section 1-5-9w, found sand at 5,760-85 ft., total depth, was shot and pumped 45 to 50 bbl. of oil daily.

Magnolia Petroleum Co.'s No. 14 McKenna, NE SE SE Section 11-5-9w, had mud and water in the hole at total depth of 3,433 ft., and was abandoned.

Phillips Petroleum Co.'s No. 1 Oakes, NE NE SE Section 34-6-10w, an old well, was deepened from 3,716 ft. to Meadrano sand at 5,090 ft., total depth 5,265 ft., perforated casing and produced 40,500,000 cu. ft. of gas daily, with 1,660 lb. shut-in pressure.

Peoples' No. 2 Wagner, SE NE SW Section 3-5-9w, was rigging up rotary tools.

Grady County

Magnolia Petroleum Co.'s No. 9 Harrison, CEL SE NE Section 28-3n-5w, Knox area, Grady County, found sand at 2,434 ft., total depth 2,496 ft., and flowed 105 bbl. of 38.5-gravity oil in 24 hours.

Critchlow's No. 7 Adair, CWL SW NW Section 27-3n-5w, had dug cellar and pits.

Comanche County

McKee's No. 5-A Truitt, NW SW SE Section 26-2n-11w, Lawton area, Comanche County, pumped 25 bbl. of oil daily and was completed in sand at 183-92 ft., total depth.

Tillman County

Indian Territory Illuminating Oil Co.'s No. 6 Graham, SE NE NE Section 1-3s-19w, Frederick district, Tillman County, topped Canyon zone at 3,119 ft., total depth 3,125 ft., set 7-in. casing at 3,117 ft., and pumped 264 bbl. of oil and 65 bbl. of water in 24 hours.

Same company's No. 5 Dickey, NE NE NW Section 1-3s-19w, was a location.

In Carter County Magnolia Petroleum Co.'s No. 2 Cox, NE NE NW Section 22-2s-2w, was rigging up machine.

Kiowa County

A wildcat failure was recorded in Kiowa County at Crawford's No. 1 Kimray, SW SW NW Section 36-5-18, which was dry and abandoned at total depth of 1,604 ft.

Jackson County

Burnham's No. 1 Guyman A, SW NE SW Section 14-1n-20w, Altus field, Jackson County, an old well, was deepened from 1,360 ft. to 1,522 ft., and pumped 10 bbl. of oil daily.

Henry's No. 1 Henry, NW NW NW Section 15-1n-20w, set 7-in. pipe at 1,417 ft., total depth 1,519 ft., and flowed 125 bbl. of oil in 24 hours through tubing.

Gulf Oil Corp.'s No. 6 Eley, NW NW SE Section 10-1n-20w, was temporarily abandoned at plugged-back depth of 1,494 ft.

Same company's No. 4 Barnett, SW SW SW Section 10-1n-20w, spudded with rotary. Vaughn's No. 8 Stokes, NE NW SW Section 11-1n-20w, was moving in rotary tools, and same operator's No. 9 Stokes, SW NW SW Section 11-1n-20w, was a location.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ended February 3, and for the preceding week was as follows:

	Barrels	
	Feb. 3	Jan. 27
Allen	5,900	5,975
Billings	6,625	6,600
Burbank	7,300	7,300
South Burbank	8,750	8,775
Balance Osage	17,000	17,000
Blackwell district	3,750	3,725
Bristow-Slick	6,375	6,375
Chandler	1,400	1,450
Crescent	2,350	2,350
Cromwell	2,925	2,950
Cushing-Shamrock	9,675	9,650
Duncan	3,700	3,725
Edmond	4,425	4,575
Fish	3,475	3,475
Fitts	20,450	19,400
Jesse	2,225	2,225
Graham-Fox	1,925	1,950
Gray	800	800
Healdton	8,875	8,875
Hewitt	3,650	3,725
Keokuk	3,175	3,150
Konawa	1,275	1,275
Lucien	8,400	8,425
Moore	2,100	2,150
Oklahoma City	87,600	100,100
Olympic	2,550	2,550
Ramsey	4,825	4,975
Sasakwa	1,725	1,750
Sholem-Alechem	2,850	2,875
Seminole district:		
Bowlegs	7,650	7,550
Carr City	2,475	2,475
Dora	2,400	2,375
Earlsboro	4,625	4,600
South Earlsboro	600	575
East Earlsboro	2,275	2,250
Little River	6,825	6,850
East Little River	725	725
Maud	725	700
Mission	1,250	1,275
Seminole	7,550	7,525
East Seminole	1,160	1,125
Searight	2,350	2,375
Total Seminole	40,610	40,400
St. Louis-Pearson	34,300	34,500
Tatums	1,950	2,000
Tonkawa-Garber-Thomas	4,075	4,075
Wewoka	1,625	1,600
Yale-Jennings	3,575	3,550
Other pools	96,265	95,850
Total Oklahoma	418,475	430,125

Kentucky Fields

(Continued from Page 67)

McLean County, South Livermore district: Cumberland Petroleum Co. and others' No. 8 D. and S. Butterfield, drilled deeper through second McClosky pay, 10-bbl. well, total depth 1,725 ft. J. D. Reynolds' No. 3 Hollis Howell, 50-bbl. well in Jett sand, total depth 1,164 ft. Island district: South Penn Oil Co.'s No. 8 H. K. Kirtley, drilling at 770 ft.

Muhlenberg County, Belton district: Sherin Coal Co., trustee's No. 1 Pratt, drilling at 400 ft.

Ohio County, Rosine district: Porter Evans' No. 1 Dr. Burton, dry hole, total depth 342 ft. Maxwell district: Thomas A. Galey's No. 3 A. Tucker, 10-bbl. well in Jackson and Bethel sands, total depth 924 ft. Jingo district: W. Bratcher's No. 1 Jess Schroeder, dry hole, total depth 951 ft. Sunnydale district: R. Taylor's No. 3 C. E. Wimsatt, abandoned location.

EASTERN KENTUCKY

ASHLAND, Ky., Feb. 5.—King Winter has continued his reign in the eastern Kentucky area and while there has been a slight improvement in weather conditions, ice and snow still hinder field operations.

One completion marks the field reports this week. The Kentucky & West Virginia Gas Co.'s No. 551 on the Wilson Short land on Rockcastle in Martin County, was drilled to 2,880 ft., in shale, and made an initial flow of 119,000 cu. ft. of gas.

In Lawrence County the Big Blaine Gas & Oil Co. is down 1,080 ft. in No. 14 W. M. Savage in the Busseyville-Fellsburg district.

In Knott County Inland Gas Corp. is building rig for No. 212 on the W. H. Smith tract, right fork of Troublesome Creek. Kentucky & West Virginia Gas Co. is idle at No. 582 on the B. F. King land on Joe King Branch.

In Floyd County Kentucky & West Virginia Gas Co. has reached 2,266 ft., in slate, in No. 5259 on the John W. Taylor land on Toler Creek. The same firm is down 1,718 ft., in Big lime, in No. 5261 on the J. P. Sturgill land, also on Toler Creek.

In Martin County Kentucky & West Virginia Gas Co. is building road to well No. 583 on the Wilson Short land on Rockcastle.

North and East Texas

By
D. H. STORMONT

3 Wichita-Archer Wildcats Nearing the Critical Stage

WICHITA FALLS, Tex., Feb. 5.—With water shut-off complete and official gage scheduled for this week at southwestern Clay County's new wildcat pool opener of Shell Oil Co., Inc., on the Henderson lands, another wildcat sector entered the spotlight in North Texas' intense exploratory play. The new area embraces the southeastern corner of Wichita County and the northeastern corner of Archer County.

In this area there are three closely watched wildcats, one of which has casing set on top of a 4,300-ft. formation which is expected to open a new field for the county. Possible new discovery is Bert Ligon's (Wichita Falls) No. 1 Collins, southwest corner of the J. Tyler Survey, Abstract 568, ½ mile south of a 4,356-ft. dry hole, drilled several years ago. Ligon's wildcat topped sand, showing oil, at 4,217 ft., and drilled 14 ft. to 4,231 ft., in sandy lime. Broken sand showing oil was drilled from 4,273 to 4,280 ft., where 10 ft. of rich oil sand was topped. With the hole bottomed at 4,290 ft. an unsuccessful drill-stem test was made from 4,273 to 4,290 ft. Unable to rest the testing tool on bottom, the hole was deepened to 4,296 ft., where it was shut down to cement casing at 4,280 ft. The 4,300-ft. section is believed to be the same pay found in the Hull-Silk pool approximately 10 miles to the south, in Archer County. The wildcat is about 7 miles east of nearest production in the K.M.A. pool.

Approximately 7 miles southeast of Ligon's indicated pool opener E. C. Harlin, Jr., and associates are preparing to start No. 1 I. H. Kempner, SE cor. Section 28, Denton County School Lands Survey, Abstract 58. This wildcat is about 2 miles south of the city limits of Wichita Falls and is approximately 5 miles west of Continental Oil Co.'s two small producers on the State Asylum lands just south of Wichita Falls.

Still on the closely watched trend and about 5 miles farther southeast and across the county line into Archer County Phillips Petroleum Co. and Perkins & Christie's No. 1 H. H. Taylor, SE cor. Harvey Cox Survey, Abstract 67, has been spudded and is drilling toward the deep zone.

New activity was seen for the Mankins deep pool in extreme western Archer County when Roeser & Pendleton, Inc., started moving in materials for a north outpost test ¼ mile from production. It will be No. 1 Parkey, Section 11, Block 3, H.&T.C. Survey. Two locations south of the area's discovery well British American Oil Producing Co.'s No. 1-C Wilson, NW cor. Section 12, Block 3, H.&T.C. Survey, was drilling below 2,000 ft.

Clay County

Extreme southwestern Clay County's new wildcat field opener of Shell Oil Co., Inc., is shut in awaiting official gage after successfully shutting off water. The test is No. 1 Henderson, Section 2,605, T.E.&L. Survey. After cementing off water coming from 3,494-96 ft., casing was perforated with 12 shots at 3,662½-66 ft. and 43 bbl. of oil per hour was bailed on preliminary tests. Meanwhile L. T. (Bobby) Burns is preparing to move in materials on one of his two locations staked northeast and northwest of the discovery well. The locations are No. 1 E. Henderson, SW cor. SE¼ Section 2615, T.E.&L. Survey, and No. 1 J. G. Mullins, NE cor. of north 160 acres of Section 2617, T.E.&L. Survey.

Montague County

Staking of the three deep 5,200-ft. tests for the Rogers & Rogers field just outside of Nocona, Montague County, together with increased production in Sunray Oil Co.'s recent 1-mile extension to the same horizon, indicated that it would receive considerable immediate development. First of the new locations was made by Stanolind Oil & Gas Co. at its No. 2 Zachary, 330 ft. from the south and west lines of the Jacob Lenow Survey and about ¼ mile north of Sunray Oil Co.'s deep producer. Later in the week Anderson & Prichard and Youngblood & Foree announced location for No. 1 Burnett, 330 ft. from the north and west lines of a 30-acre lease in the Lenow Survey, 660 ft. south and east of Sunray's deep well. Late in the week intentions to drill were announced at a deep location made several weeks ago about ½ mile northeast of nearest production from the deep level. It will be the L. A. Conner and W. H. Curry's No. 1 Harvey Gentry, 289 ft. from the south line and 330 ft. from the west line of a 27½-acre tract in the J. D. Jennings Survey. The location was originally staked by Neal & Smuggs.

Increased production was reported for Sunray Oil Co.'s No. 1 Burnett, 5,200-ft. producer which extended the deep pay a mile to the south 2 weeks ago. After correcting a mechanical difficulty in the flow valves, the horizon was acidized with 1,000 gal. and responded with a flow of 98 bbl. the first hour, 87 bbl. the second hour, and 85 bbl. the third hour.

Jack County

Possible new field opener from the 2,870-ft. Bryson sand between the Bryson field proper and the town of Jacksboro is Steed-Cooper's No. 1 W. J. Mathias, J. H. Nesmith Survey, Abstract 1562, approximately 5 miles west and slightly south of Jacksboro. A core from 2,873 to 2,883 ft. showed a recovery of 6 ft. of solid oil sand. Operations were halted at this point, and at last report casing was being cemented at 2,870 ft. for tests. The wildcat is about 4 miles east of nearest production in the Bryson field.

NORTH TEXAS COMPLETIONS

Archer County

Chapman & McFarlin's No. 4 L. F. Wilson C, 4,338-91 ft., 608 bbl. Cochran & Cain's No. 1 Dr. J. A. Little, 4,324-52 ft., 1,632 bbl. Deep Oil Development Co.'s No. 1 Ray Carson, 4,304-43 ft., 722 bbl. Dillard, White & Duncan's No. 1 A. P. Nichols, 4,308-85 ft., 1,132 bbl. Hammon, Hanlon-Buchanan, Inc.'s No. 8 W. P. Ferguson B, 3,811-3,914 ft., 952 bbl. G. E. Kadane & Sons' No. 1 Joseph Hemmi B, 4,161 ft., dry. Phillips Petroleum Co.'s No. 2 Dr. J. A. Little, 4,322-67 ft., 774 bbl. L. Sikes' No. 1 O. T. Anderson B, 4,003-35 ft., 1,044 bbl. Southern Petroleum Exploration, Inc.'s No. 7 T. C. Moss, 4,285-4,321 ft., 1,112 bbl. Texas Co.'s No. 36 L. F. Wilson, 4,350-95 ft., 585 bbl. Thurmond & Lipscomb's No. 5 L. F. Wilson, 3,958-78 ft., 1,392 bbl. W. B. Hamilton's No. 5 C. E. Graham, 5,283 ft., dry. W. B. Hamilton's No. 14 A. J. Ikard A, 1,214 ft., dry. W. B. Hamilton's No. 3 A. J. Ikard C, 2,010 ft., dry. F. T. Johnson's No. 1 W. E. Brown, 1,412-25 ft., 121 bbl. Perkins & Cullum's No. 22 C. L. Abercrombie, 996-1,018 ft., 10 bbl. Rathke Oil Co.'s No. 9 C. Cowan, 1,127-36 ft., 10 bbl. J. D. Thweatt and others' No. 1 S. Webb, 550-710 ft., 55 bbl. Young & Woody Drilling Co.'s No. 1 D. B. Ikard, 1,026 ft., dry.

Clay County

J. A. Coker's No. 1 W. A. Henderson, 1,200 ft., dry. E. N. Costley and others' No. 4 C. T. Taylor C, 1,092-1,102 ft., 295 bbl. Duncan, Arnhold & Duncan's No. 16 T. P. Duncan, 1,144-64 ft., 292 bbl. J. A. Morgan's No. 2 M. C. Brannon, 341 ft., dry.

Cooke County

Bridwell Oil Co.'s No. 3 J. Flusche B, 773-89 ft., 18 bbl. Sinclair Prairie's No. 16 J. M. Best, 4,949-82 ft., 517 bbl. Sinclair Prairie's No. 6 P. McGeorge, 4,913-44 ft., 968 bbl. King Oil Co.'s No. 4 Joseph Weisman, 735-68 ft., 10 bbl. W. H. Peckham's No. 3 S. D. Meader, 1,530-52 ft., 226 bbl.

Jack County

N. Daves' No. 1 K. D. Baker, 2,780 ft., dry. Buffalo Oil Co.'s No. 1 E. C. Riddle, 3,265 ft., dry. B. Fleeger's No. 1 G. E. Winn, 3,263-92 ft., 368 bbl. Hix & English's No. 7 M. Covington, abandoned location. H. Witmer II's No. 3 T. Hitchcock, abandoned location.

Montague County

William T. Payne's No. 1 J. S. Wood and others, 4,322-44 ft., 1,640 bbl. Texas Co.'s No. 1 P. J. Martin, 3,624 ft., dry.

Wichita County

Magnolia Petroleum Co.'s No. 160 H. Reilly, 1,518 ft., dry. J. E. Farrell's No. 26 J. L. and T. J. Waggoner, 3,775-3,815 ft., 672 bbl. Hanlon-Buchanan, Inc.'s No. 6 Fassett & Tuttle E, 3,943-4,016 ft., 390 bbl. L. V. Hull's No. 6 E. Daume, 688-95 ft., 25 bbl. Southport Oil Corp.'s No. 10-A Big Wichita River Bed, 3,730-3,915 ft., 672 bbl. Tide Water Associated Oil Co.'s No. 12 W. P. Ferguson, 3,782-3,870 ft., 526 bbl. Tide Water Associated Oil Co.'s No. 22 Charles Pettit, 3,709-3,860 ft., 960 bbl. Mrs. Hulda B. Wallace's No. 3-D W. J. Logan and others B, 3,694-3,863 ft., 960 bbl.

Young County

B. C. Gilmore's No. 4 R. L. Watson, 538-84 ft., 8 bbl. E. W. Hunt's No. 5 H. M. Gass and others, 1,275 ft., dry. L. A. Long's No. 1 J. S. Williams, 1,710-30 ft., 15 bbl.

EASTERN TEXAS

DALLAS, Tex., Feb. 5.—The continued upturn of drilling activity in the East Texas field, noted for the third consecutive week, together with new developments in the district's deep Trinity exploratory campaign, drew attention in the eastern Texas area during the week.

Completions in the East Texas field totaled eight, or two more than in the previous week, and new locations totaled 10, two more than in the week before. The completions included six in Gregg County and two in Rusk County, while the new locations were nine in Gregg County and one in Upshur County.

Shell Oil Co., Inc.'s No. 1 Campbell in Smith County is reported making a sufficient flow of 39-gravity oil to possibly open the first lower Trinity oil production in the East Texas basin. Tests on Sunday showed casing pressure of 200 lb. and well made one 5-minute flow. The oil was cut with about 20 per cent mud and wash water. The well was drilled to 8,599 ft., casing was set at 8,160 ft., and gun-perforated at 8,058-68 ft. The well previously had indicated a possible distillate producer on the basis of side-wall cores.

The district's deep Trinity wildcat campaign suffered a setback when H. S. Moss announced the abandonment of No. 1 Joe Venters, Camp County wildcat, in the extreme northern part of the eastern Texas district. No. 1 Venters was abandoned at a total depth of 7,608 ft. The wildcat was taken over several weeks ago by H. S. Moss from W. C. McGlothlin at 5,710 ft., with intentions of drilling to the Glen Rose section. The log reported the base of the Paluxy at 5,930 ft., top of the anhydrite at 6,922 ft., top of massive anhydrite at 7,143 ft., top stringer 7,305 ft., and top of the Hill sand at 7,395 ft. It is in the S. Wright Survey, 3 miles southeast of the town of Leesburg.

Completion of the second deep Trinity well in the Groesbeck pool of Limestone County was near as Murray Samuell and Zephyr Oil Co. arranged to set casing in No. 2 Barron, McKenzie Survey, ½ mile north-

east of the Pettit horizon gas field opener of several weeks ago. No. 2 Barron has been bottomed at 5,685 ft. or 85 ft. into the zone showing saturation in the No. 1 Barron.

Houston County's deep wildcat being drilled by Shell Oil Co., Inc., on the Dorsey lands has become one of eastern Texas' few wildcats to be drilled below 10,000 ft. At last reports the test was coring below 10,007 ft. in flaky lime and getting poor recovery.

Van Zandt County was given a new wildcat when J. B. Daniel of Fairfield staked his No. 1 Mark Guill, northeast corner of the Guill tract in the J. Garcia Survey, 4 miles east and slightly north of Mabank, in northern Henderson County. Starting date was not announced; however, the wildcat will be drilled with the operator's own tools.

EAST TEXAS COMPLETIONS

(One-hour gages)

Gregg County—Longview Area

Atlantic Refining Co.'s No. 28 Duncan, 3,622-3,778 ft., 61 bbl. Galvez Oil Co.'s No. 10 Holland, 3,601-12 ft., 88 bbl.

Gregg County—Kilgore Area

T. P. Looney's No. 3 M. Strong, 3,598-3,607 ft., 50 bbl. Overton Refining Co.'s No. 3 Butts, 3,536-57 ft., 30 bbl. John Wrather's No. 7-A I.&G.N. R.R., 3,548-75 ft., 35 bbl. John Wrather's No. 1 Joe King, 3,656-56½ ft., 30 bbl.

Rusk County—Joiner Area

Hunt Oil Co.'s No. 24-B Bradford, 3,581-3,675 ft., 50 bbl. on gas lift. Hunt Oil Co.'s No. 25-B Bradford, 3,580-3,668 ft., 18 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Andrews County

In the Long Lake field, F.H.E. Oil Co.'s No. 1 F. H. Walsh, J. Madden Survey, 5,350-56 ft., 67 bbl. Hunt Oil Co.'s No. 4 Broyles-Wolverton, 5,364-77 ft., 99 bbl.

Camp County

A wildcat, H. S. Moss (formerly W. C. McGlothlin)

(Continued on Page 90)

West Texas Fields

(Continued from Page 70)

the west lines of the G.H.&H. Survey, a mile north of the town of Novice.

Brown County received a new wildcat location when A. M. Stalcup of Brownwood let contract for his No. 1 J. C. Morris, 136-acre tract on the line between the John Goodwin and the W. B. Hester surveys. The location is 900 ft. from the south and 700 ft. from the east line of the Morris tract. Expected to encounter the Ellenburger at about 1,600 ft., the wildcat will seek showings of oil found in a nearby test at about 3,000 and 3,300 ft.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Callahan County

McCord-McIntyre's No. 1 McDermett, George Edwards Survey 185, dry and abandoned at 598 ft.

Comanche County

Bossart's No. 1 Kittle, T. J. Bonner Survey, Abstract 105, dry and abandoned at 720 ft. L. H. Choate's No. 1 Ayles, Section 5, Lampasas C.S.L. Survey 134, Abstract 608, sand from 572-84 ft., 140 bbl.

Eastland County

Hickok Production Co.'s No. 5 Cleveland, Section 477, S.P. Survey, 3,994-4,008 ft., 210 bbl. J. L. Reeves' No. 1 Parker, William Van Norman Survey, Abstract 545, 3,019-41 ft., 250,000 cu. ft. of gas.

Jones County

T. D. Humphrey's No. 1 Hall, Section 1, Block 17, T.&P. Survey, dry and abandoned at total depth of 2,737 ft. Lewis Production Co.'s No. 5 Muenzler, Section 199, B.B.B.&C. Survey, 3,260-62 ft., 444 bbl. Moutray & King's No. 1 Wagley, G. Martinez Survey 195, dry and abandoned at total depth of 2,572 ft.

Palo Pinto County

Palo Pinto Oil & Gas Corp.'s No. 1 Johnson, Burleson C.S.L. Survey 61, dry and abandoned at total depth of 3,345 ft.

Shackelford County

Georgian Oil Corp.'s No. 11 Black, Section 509, T.E.&L. Survey, 582-599 ft., 10 bbl. C. Midkiff's No. 1 Green, Section 43, B.O.A. Survey, dry and abandoned at 417 ft. Miller's No. 1 Godwin, Section 385, T.E.&L. Survey, dry and abandoned at 535 ft. Roeser-Pendleton, Inc.'s No. 1-B-113 Cook, Section 113, E.T. Survey, 1,553-68 ft., 205 bbl. Roeser-Pendleton, Inc.'s No. 1 Newell, Section 10, Block 12, T.&P. Survey, dry and abandoned at total depth 1,938 ft. Westexas Oil & Refining Co.'s No. 1-A Dowson-Conway, Section 193, E.T. Survey, dry and abandoned at total depth 1,645 ft.

Stephens County

George E. Fagg's No. 1 Richardson, Section 5, Block 3, S.P. Survey, 3,888-3,944 ft., 231 bbl. oil with 4 per cent water and 1,171,000 cu. ft. of gas.

Tarrant County

Morris & Lucus' No. 1 Wyatt, W. H. Curry Survey, dry and abandoned at 502 ft.

PANHANDLE COMPLETIONS

Carson County

Texas Co.'s No. 8 Cooper, 3,115-3,200 ft., 479 bbl.

Gray County

J. M. Holley's No. 1 Furneaux, 2,770-2,890 ft., 1,500,000 cu. ft. gas. Magnolia Petroleum Co.'s No. 15 E. Haggard, 3,240-3,300 ft., 320 bbl., pumping.

Hutchinson County

Phillips Petroleum Co.'s No. 12 Gary, 3,196-3,304 ft., 198 bbl. Texas Co.'s No. 16 Pond, 3,000-90 ft., 408 bbl., pumping. Texas Co.'s No. 17 Pond, 3,000-80 ft., 314 bbl., pumping. Maud Whittington's No. 1 Cal Merchant, 2,395-2,615 ft., 24,156,000 cu. ft. gas.

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California Field Report

By L. P. STOCKMAN

Plan to Cut Down Drilling on North Dome Meets Delay

LOS ANGELES, Calif., Feb. 5.—Failure of two operators to approve Kettleman North Dome Association (Kenda) proposal to restrict drilling and production activities of the Eocene in the Kettleman North Dome field has resulted in a resumption of production activities by Kenda with the result that February production of the field will be somewhat above the average in January. In order to show its intention of good will, Kenda cut its production during January below the minimum set up in the Kettleman unit plan of development, and indicated that production would be restored to the old basis subsequent to January 31, 1940, unless all other operators agreed to ratify and conform with the proposed plan. Failure of two operators to approve the projected plan does not mean that it has been discarded, but rather indicates that they desire to give further consideration to the proposal. Late in December 1939 Kettleman North Dome Association submitted a plan to all operators in the North Dome field whereby development and production of the deep Eocene zone would be operated in conformity with characteristics of the Eocene underlying any given section in comparison with that underlying a master section.

Adoption of this plan would result practically in unit operation with each operator retaining actual control of his lease. The projected plan is based on gas production from the Eocene, and to facilitate operation the field was segregated in units of 160 acres each. Superior's Huffman lease was selected as the master quarter section, and production of the other quarter sections would be based on production of the master section. The proposed Eocene plan, which is still a live subject despite lack of 100 per cent approval, is in conformity with the latest phase of the voluntary curtailment program, as, being based on volumetric relationships of quarter-section operating units, it would tend to discourage unnecessary drilling. It is also in conformity with the present trend of conservation efforts which look not so much to daily production levels as to the best production methods, so that the ultimate recovery of oil from any producing formation will approach 100 per cent as closely as possible. The productive Eocene has an unusually high gas-oil ratio and all operators who have completed wells in the Eocene realize that something must be done to regulate gas production in order to increase ultimate production of crude oil.

Standard Oil Co. early in January completed an Eocene well in about the center of the North Dome field and very close to the structural axis. This well, like its predecessors located far out in the west end of the Kettleman anticline, showed a high gas-oil ratio, thus confirming the expectation that the Eocene would extend beneath the entire present limits of the field and that the same high gas-oil ratio would prevail throughout the structure. Recently, Standard Oil Co. has taken steps to drill an Eocene well in the east end of the structure and this, in addition to spreading the extent of the acreage involved, will necessitate offset drilling by Kenda. During the early part of the current week Standard completed No. 74-21-Q in Section 21-22-18 flowing 1,895 bbl. of clean 32.4-gravity oil and 1,530,000 cu. ft. of gas per day from the Temblor with bottom of the hole at 8,080 ft. This well, flowing through a 48/64-in. bean and showing a tubing pressure of 900 lb. and a casing pressure of 1,000 lb., was pinched in as soon as production had cleaned up. The hole was finished with an 8⅝-in. water string cemented at 6,652 ft. and 1,475 ft. of 5½-in. liner landed at 8,075 ft. and cemented through perforations at 7,630 ft. and at 7,800 ft. Perforations opposite the productive formation were at 7,630-7,750 ft., and 7,800-8,075 ft. A total of 7,767 ft. of 2½-in. tubing was used in the completion.

Cole's Levee—Tupman

Richfield Oil Corp., discoverer of the Tupman section of the Cole's Levee field of Kern County, completed No. 58-29-A Kern County Land in Section 29-30-25 flowing 1,865 bbl. of clean 32.3-gravity oil and 1,530,000 cu. ft. of gas per day from the Stevens sand at 9,025 ft. It was finished with an 8⅝-in. water string cemented at 8,308 ft. and 651 ft. of 6⅝-in. liner landed at 8,895 ft. and cemented through perforations at 8,574 ft. Perforations were at 8,578-8,895 ft. Before being completed the hole was plugged back from 9,025 ft. to 8,900 ft. as the bottom contained an unproductive gray sand. Richfield's next completion in the field is scheduled to be No. 76-29-A Kern County Land in Section 29-30-25 as the bit is rotating below 8,700 ft. Standard Oil Co. was finished No. 20-2 Kern County Land in Section 9-31-25. It is bottomed at 9,324 ft. with an 8⅝-in. water string cemented at 8,818 ft. and 548 ft. of 5⅝-in. liner run in the hole and landed at 9,322 ft. No. 65 Kern County Land of Tide Water Associated Oil Co. in Section 13-31-25, far out on the east end of the Cole's Levee structure, is drilling at 10,420 ft. in a gray sand and shale, the top of the sand having been logged at 10,352 ft.

Coalinga

Several wells are being given production tests in the Coalinga field of Fresno County and this week should see completion of No. 22-20-B Ewing of Amer-

STANDARD OIL CO. OF CALIFORNIA

Crude-oil prices at the well effective February 1, 1940

(All gravities above those quoted take highest price offered in that field)

Gravity—	Signal Hill (Long Beach) (El Segundo)	Wilmington	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley-Canal	Cole's Levee Richfield Western	Mountain View	Elk Hills	Buena Vista, Midway-Sunset, Lakeview	Lost Hills	Coalinga	Kettleman Hills
14-14.9	$.65	$.60	$.64	$.63	$.64	$.65	$.61	...	$.65	$.61	$.61	$.62	$.63	...	...	...	...	$.60	$.60	$.60	$.60	...
15-15.9	.65	.60	.64	.63	.64	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
16-16.9	.65	.60	.64	.63	.64	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
17-17.9	.65	.62	.64	.63	.68	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
18-18.9	.65	.64	.64	.63	.71	.65	.65	...	.68	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
19-19.9	.69	.69	.64	.67	.75	.70	.69	...	.72	.61	.65	.62	.63	...	...	...	.$.60	.64	.64	.64	.61	...
20-20.9	.73	.73	.64	.72	.79	.76	.74	...	.75	.65	.69	.62	.67	...	...	...	.60	.68	.69	.69	.62	...
21-21.9	.78	.78	.64	.76	.82	.81	.78	...	.79	.69	.73	.62	.72	$.63	...	...	.64	.74	.74	.74	.66	...
22-22.9	.82	.82	.69	.81	.86	.86	.82	...	.82	.73	.77	.66	.76	.63	...	...	.68	.79	.79	.78	.70	...
23-23.9	.86	.86	.75	.85	.89	.92	.86	$.71	.86	.78	.82	.71	.81	.67	...	...	.71	.84	.84	.82	.74	...
24-24.9	.90	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	...	...	.75	.89	.89	.86	.78	...
25-25.9	.95	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	...	...	.79	.94	.94	.90	.82	...
26-26.9	.99	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	...	...	.83	.99	.99	.95	...	...
27-27.9	1.03	1.03	.97	1.03	1.04	...	1.03	.94	1.00	.94	.98	.89	.98	.87	$.83	$.92	.87	1.04	1.04	.99	...	...
28-28.9	1.07	1.07	1.02	1.07	1.07	f.o.b.	1.07	.99	1.03	.96	...	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	...	...
29-29.9	1.10	1.10	1.07	1.11	1.10	our	1.10	1.04	1.06	1.02	...	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	...	...
30-30.9	1.14	1.14	1.12	1.15	1.14	pipe	1.14	1.09	1.09	...	...	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	...	...
31-31.9	...	...	...	...	1.17	line	1.17	1.14	...	...	...	1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24	...	...	...
32-32.9	...	...	...	...	1.20	...	1.20	1.19	...	...	...	1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	...	...	...
33-33.9	...	...	...	...	...	...	...	1.24	...	...	...	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	...	...	$1.12
34-34.9	...	...	...	...	...	...	...	1.29	...	...	...	1.20	1.26	1.19	1.10	1.16	1.14	...	...	...	...	1.17
35-35.9	...	...	...	...	...	...	...	1.34	...	...	...	1.24	...	1.23	1.14	1.20	...	...	...	...	...	1.21
36-36.9	...	...	...	...	...	...	...	1.39	...	...	...	1.28	...	1.27	1.18	1.23	...	...	...	...	...	1.25
37-37.9	...	...	...	...	...	...	...	1.44	...	...	...	1.33	...	1.31	1.22	1.26	...	...	...	...	...	1.29
38-38.9	...	...	...	...	...	...	...	1.49	...	...	...	1.37	...	1.36	1.25	1.30	...	...	...	...	...	1.33
39-39.9	...	...	...	...	...	...	...	1.54	...	...	...	1.42	...	...	1.29	1.34	...	...	...	...	...	1.38
40-40.9	...	...	...	...	...	...	...	1.59	...	...	...	1.46	...	...	1.33	1.37	...	...	...	...	...	...
41-41.9	...	...	...	...	...	...	...	...	...	...	...	1.50	...	...	1.37	1.40	...	...	...	...	...	...
42-42.9	...	...	...	...	...	...	...	...	...	...	...	1.54	...	...	1.41	1.44	...	...	...	...	...	...
43-43.9	...	...	...	...	...	...	...	...	...	...	...	1.59	...	...	1.45	1.47	...	...	...	...	...	...
44-44.9	...	...	...	...	...	...	...	...	...	...	...	1.63	...	...	1.49	1.51	...	...	...	...	...	...
45-45.9	...	...	...	...	...	...	...	...	...	...	...	1.67	...	...	1.53	1.54	...	...	...	...	...	...
46-46.9	...	...	...	...	...	...	...	...	...	...	...	1.71	...	...	1.57	1.57	...	...	...	...	...	...
47-47.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.61	...	...	...	...	...	...	...
48-48.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.64	...	...	...	...	...	...	...

For Newhall, McKittrick, Kern River, Round Mountain and Kern Front crude, Standard posts 60 cents per barrel for all grades. For Elwood Terrace crude (free on board ship), 33-33.9, $1.21, with 4 cents added for each degree up to and including 37° and over at $1.37; Wheeler Ridge crude, 19 to 21.9°, 60 cents; 22-22.9, 63 cents; 23-23.9, 67 cents; 24-24.9, 71 cents; 25° and over, 75 cents.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	January 28		January 21			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Fuel oil	.....	.....	30,260	4,323	30,260	60,980
Diesel and gas oil	.....	.....	.....	.....	.....	163,501
Gasoline	.....	.....	27,850	3,979	27,850	129,039
Foreign exports—						
Crude oil	593,733	84,819	292,080	41,726	1,061,193	550,844
Fuel oil	307,149	43,878	437,929	62,561	809,794	780,206
Diesel and gas oil	251,800	35,971	209,851	29,979	657,784	390,372
Gasoline	81,200	11,600	191,251	27,323	384,137	463,973
Kerosene	.....	.....	87,221	12,460	108,648	90,339
Coastwise-domestic—						
Crude oil	229,243	32,749	195,624	27,946	873,025	658,220
Fuel oil	323,606	46,229	307,181	43,883	1,170,074	738,591
Diesel and gas oil	38,617	5,517	76,013	10,859	229,278	248,811
Gasoline	249,156	35,594	208,909	29,844	991,419	884,049
Kerosene	9,942	1,420	11,159	1,594	50,585	9,942

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Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	69,985	.....
Lubricants	.....	.....	.....	.....	3,610	4,170
Foreign exports—						
Crude oil	.....	.....	.....	.....	43,120	325,583
Fuel oil	.....	.....	30,182	4,312	90,038	115,649
Diesel and gas oil	.....	.....	.....	.....	50,625	35,445
Gasoline	.....	.....	.....	.....	175,958	340,923
Kerosene	.....	.....	.....	.....	7,180	49,227
Lubricants	.....	.....	.....	.....	782	3,386
Coastwise-domestic—						
Fuel oil	158,141	22,592	208,910	29,844	626,183	774,683
Diesel and gas oil	35,248	5,035	37,622	5,375	123,155	131,810
Gasoline	162,286	23,184	140,674	20,096	648,328	766,452
Kerosene	10,090	1,441	16,516	2,359	73,289	97,036

ada Petroleum Corp. in the Northeast Coalinga field and No. 37-18-F of R. S. Lytle in the Southeast Coalinga field. In the past week, Standard Oil Co. completed No. 66-13-C in Section 13-20-15 in the Southeast Coalinga field flowing 2,576 bbl. of clean 31.6-gravity oil and 1,700,000 cu. ft. of gas per day from the Gatchell zone with bottom of the hole at 7,710 ft. Production was coming through a 40/64-in. bean, but this was varied down to 8/64 in. in the course of the production test. Tubing pressure is 1,050 lb. and casing pressure is 1,350 lb. The hole was finished with a 7-in. water string cemented at 7,375 ft. and 364 ft. of 5-in. liner landed at 7,705 ft. and perforated at 7,385-7,705 ft. Top of the Kreyenhagen was cored at 5,968 ft., top of the glauconite was cored at 7,253 ft., top of the productive Gatchell zone was logged at 7,415 ft. and base of the productive Gatchell was found at 7,702 ft. The hole was bottomed in siltstone at 7,710 ft. and the well has 287 ft. of rich and highly saturated oil sand. Universal Consolidated Oil Co., which late last year extended the productive limits of the Southeast Coalinga field to the south, has started a second well on the same lease in Section 24-20-15. The company's new well is No. 61-24-C.

Lost Hills—Belridge

Belridge Oil Co., which has been running three strings of tools in the North Belridge field of Kern County, completed No. 26-1 in Section 1-28-20 this week flowing 254 bbl. of clean 29.6-gravity oil and 2,665,000 cu. ft. of gas per day from the Wagonwheel zone of Eocene age at 8,317 ft. This new producer was carried down to 8,500 ft. but plugged back to the completion depth before being given a test. The hole was finished with a 9-in. water string cemented at 8,282 ft. and the well was brought in barefoot, there being no pipe below the shoe of the 9-in. Due to a greatly expanded gas cap, production of the North Belridge field will be under original expectations. In Section 26-27-20 Belridge Oil Co. is rigging up to redrill No. 53-26, now bottomed in the Wagonwheel zone at 8,410 ft. In the Lost Hills field of Kern County Tide Water Associated Oil Co. recompleted No. 8-3-A Elliott in Section 11-26-20 pumping 5 bbl. of 13.5-gravity oil cutting 22 per cent after deepening the hole to 1,475 ft. This well was finished with an 8⅝-in water string cemented at 1,445 ft. and 52 ft. of 6⅝-in. liner landed on bottom and perforated at 1,440-75 ft.

Gas Wells

Richfield Oil Corp. failed to find commercial oil production in No. 81-36 B.V.A. in Section 36-31-25 at the southeastern end of Buena Vista Lake in Kern County, but finished the well as a 15,500,000-cu. ft. gasser. It was carried down to 11,379 ft. and had 5,580 ft. of 11¾-in. casing set when drilling operations were suspended. Failing to find commercial oil the hole was plugged back to 5,560 ft., which was above the shoe of the 11¾-in. and then gun-perforated the casing at 5,447-70 ft. and 5,532-48 ft. A string of 2½-in. tubing was hung at 5,424 ft. and the well brought in under control as a commercial gas well. Flow pressure on completion was 925 lb. on the tubing and casing, and shut-in pressure was 2,070 lb. Up in the Marysville Buttes gas field Buttes Oilfields, Inc., is plugging back No. 6 McPherrin in Section 1-15-1 from 7,070 ft. to the known gas zone and should have the well ready for production shortly. This well is located in Sutter County. In the Potrero Hills gas field of Solano County, Richland Oil Corp. is drilling its No. 2 in Section 5-4-1, but still has another 4,000 ft. of hole to make before reaching the gas sand.

Montebello

One well was completed in the western extension of the Montebello field, Los Angeles Basin, No. 2 Zanetti of R. R. Bush Oil Co. which was brought in flowing 305 bbl. of 35.6-gravity oil and 1,300,000 cu. ft. of gas per day through a 100/64-in. bean behind a tubing pressure of 150 lb. and a casing pressure of 650 lb. It was bottomed in La Merced zone at 7,676 ft. and finished with a 7-in. water string cemented at 7,580 ft. and gun-perforated at 7,440-7,540 ft. opposite the high-pressure gas zone. Below the 7-in. water string the company used 106 ft. of 5½-in. liner landed on bottom and carrying perforations at 7,586-7,676 ft. and 7,664 ft. of 2½-in. tubing with a packer at 7,562 ft., and an Otis valve at 7,531 ft. The gas cap has expanded to such an extent that all wells producing from La Merced zone in this field show an extremely high gas-oil ratio.

Wilmington

The Wilmington field, located immediately adjacent to tidewater in the Long Beach Harbor section of Los Angeles Basin, contributed three new wells. Union Pacific Railroad Co.'s No. 121 Harbor was finished flowing 1,350 bbl. of 25.2-gravity oil per day from the Terminal zone with bottom of the hole at 3,823 ft. It was carried down to 4,061 ft., but encountered a gray sand and was plugged back to the completion depth before being finished. The hole was finished with 11¾-in. casing cemented at 2,644 ft. and 678 ft. of blank 9⅝-in. liner cemented at 3,117 ft. A string of 7-in. casing was then run in and cemented at 3,652 ft. and then 438 ft. of 5-in. liner was landed at 4,058 ft. and perforated at 3,652-3,737 ft., 3,747-3,833 ft., 3,853-3,987 ft., and 4,007-58 ft.

No. 20-B of Hancock Oil Co. was completed flowing 505 bbl. of clean 28.5-gravity oil per day through a 28/64-in. bean behind a tubing pressure of 220 lb. and a casing pressure of 300 lb. from the Terminal zone at 4,069 ft. This tideland well was finished with an 11¾-in. water string cemented at 2,425 ft. and an 8⅝-in. liner landed on bottom and cemented through perforations at 2,915 ft. and 3,477 ft. and carrying perforations at 2,915-3,376 ft. and 3,478-4,069 ft. The 4,008 ft. of 2½-in. tubing had a packer at 3,377 ft. The smallest well finished was No. 1 Harbor of Bond Petroleum Co., flowing 250 bbl. of 14.5-gravity oil per day from the Ranger zone at 3,337 ft. This well was completed with an 8⅝-in. water string cemented at 3,025 ft. and 346 ft. of 5¾-in. liner landed at 3,337

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ft. and including 312 ft. of perforated. The 3,330 ft. of 2½-in. tubing used had a packer at 3,000 ft.

Rosecrans

In the Rosecrans field of Los Angeles Basin No. 36 Rosecrans of Union Oil Co., finished in the O'Dea zone at 7,700 ft., failed to flow and the company installed a gas lift. It started at 130 bbl. of 33.9-gravity oil cutting 7 per cent along with 427,000 cu. ft. of net formation gas. No. 1 McMillen Community of Thomas Kelly & Sons, Inc., flowed 175 bbl. of clean 32.1-gravity oil per day through an 18/64-in. bean behind a tubing pressure of 290 lb. and a casing pressure of 300 lb. from the O'Dea zone at 7,693 ft.

Newhall Area

In the Aliso Canyon field of Los Angeles Basin Tide Water Associated Oil Co. completed No. 3 Porter, flowing 2,465 bbl. of 25.5-gravity oil per day from 5,450 ft. It was shut in immediately after completion. The well produces from 700 ft. of formation. It is the fifth finished in the field, all five wells on property leased by Tide Water Associated Oil Co. which controls all of the potentially productive acreage. Union Oil Co. and Standard Oil Co. each drilled a dry hole north of the discovery well and both properties have since been quitclaimed.

In the Rancho San Francisco area Barnsdall Oil Co. completed No. 1 Rancho San Francisco flowing 895 bbl. of 38.9-gravity oil and 450,000 cu. ft. of gas per day after the hole had been redrilled and deepened to 7,012 ft. This is the discovery well in the Rancho San Francisco area and was originally completed at 6,472 ft., from which depth it has produced for some time. No. 9 Rancho San Francisco is being rigged up and should get under way within the next few days. All of the productive acreage in this field is held by Barnsdall Oil Co. which completed the discovery well.

Los Angeles Basin

Southwest Exploration Co. completed another excellent tideland well in the Huntington Beach field of Orange County when No. 23 State was brought in pumping 530 bbl. of clean 25.5-gravity oil per day from 4,490 ft. This new well was finished with an 8⅝-in. water string cemented at 3,640 ft. and 862 ft. of 6⅝-in. liner landed at 4,490 ft. and carrying perforations at 3,640-4,490 ft. In the East Coyote field Master Petroleum Co. has recompleted No. 1 Wright in Section 19-3-9 pumping 170 bbl. of 22.5-gravity oil cutting 22 per cent after drilling the hole down to 5,550 ft. and then plugging back to 4,260 ft. This rejuvenated well was finished with a solid string of 6⅝-in. casing cemented at 4,260 ft. and then gun-perforated at 4,215-4,240 ft. and 3,950 ft. of 2½-in. tubing.

Coastal District

Tide Water Associated Oil Co., in the Ventura Avenue field, completed No. 16 McGonigle doing 1,180 bbl. of 29.6-gravity oil and 1,580,000 cu. ft. of gas per day from 10,100 ft. It was brought in flowing through a 128/64-in. bean and showed a tubing pressure of 200 lb. and a casing pressure of 750 lb. It was finished with a 7⅝-in. water string cemented at 9,360 ft. and 797 ft. of 5⅛-in. liner landed at 10,095 ft. and perforated at 9,277-10,095 ft. Production is flowing through 9,124 ft. of 3-in. tubing.

In the Rincon field Chanslor Canfield Midway Oil Co. completed No. 26 Hobson Lease B, a new well flowing 181 bbl. of 28.1-gravity oil and 1,300,000 cu. ft. of gas per day from 4,845 ft. and recompleted No. 10-A Hobson Lease B pumping 45 bbl. of 22.5-gravity oil cutting 22 per cent from 4,521 ft.

Gulf Coast Fields

(Continued from Page 71)

In the Garwood area, Colorado County, W. R. Davis & Co. continues to test No. 1-A McLane. Casing was perforated at 9,958-84 ft., and the well swabbed salt water with a trace of gas. The perforations have been squeezed off and the casing will be reperforated for another test.

Sun Oil Co. completed No. 2 Zinn-Foreman at the Caplen field, Galveston County, for an initial production of 137 bbl. oil daily flowing through a ⅛-in. choke from perforated casing at 7,205-20 ft.

Gulf Oil Corp.'s No. 2 Bordages, which opened production from a deep sand on the northwest flank of the Fannett dome, Jefferson County, flowed 845 bbl. of 37.4-gravity oil daily on a 24-hour potential test. The gage was made on a ¼-in. choke. Flowing pressure on the tubing was 1,500 lb. and casing pressure 1,300 lb. Production is from the Frio sand through perforated casing at 8,275-85 ft. The Round Marginulina was topped at 7,419 ft, Flat Marginulina at 7,565 ft., and Marginulina No. 7 at 7,573 ft.

In the northeast extension area of the South China field, Jefferson County, Titanic Oil Co.'s No. 1-B Guiterman, approximately 1,300 ft. west of No. 1 Guiterman, cored shale and sand with an oil odor at 7,488-7,513 ft., and 5½-in. casing was cemented on bottom at 7,570 ft. The sand section was logged at approximately the same depth as No. 1 Guiterman.

Deepening of an old producing well in the Pickett Ridge field, Wharton County, resulted in a new sand discovery as Texas Co. completed No. 20-A Pierce estate for an initial production of 103 bbl. daily flowing through a 12/64-in. choke. Tubing pressure was 500 lb. and casing pressure 1,500 lb. No. 20-A Pierce was originally completed as a gas well at a total depth of 4,712 ft., and was deepened to a depth of 4,797 ft. The new sand was topped at 4,777 ft., and the well was completed through perforated casing at 4,777-90 ft. The discovery may result in a large-scale deepening program.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Old Ocean field: Stanolind Oil & Gas Co.'s No. 1 Giles, perforated 10,077-10,117 ft., 601 bbl., ¼-in. choke.

Chambers County

Anahuac field: Gulf Oil Corp.'s No. 3-C Blanke, sand 7,164-74 ft., 170 bbl., ¼-in. choke.

Fort Bend County

Rosenberg field: Fred Browning's No. 1 Socha, perforated casing 7,713-34 ft., 50 bbl., ⅛-in. choke. Thompson field: J. H. Blaffer's No. 12-Y Davis, sand 4,370-85 ft., 450 bbl., ¼-in. choke.

Galveston County

Caplen field: Sun Oil Co.'s No. 2 Zinn and Forman, perforated casing 7,205-20 ft., 137 bbl., ⅛-in. choke. Dickinson field: Humble Oil & Refining Co.'s No. 2 Kreisle, 9,040 ft., 168 bbl., ¼-in. choke.

Jackson County

Francitas field: Texas Co.'s No. 2 Weed, 10,386 ft., dry and abandoned. West Ranch field: Humble Oil & Refining Co.'s No. 2 State, 5,598 ft., 120 bbl., ¼-in. choke. Superior Oil Co.'s No. 1 Simon Seidel, 6,321 ft., dry and abandoned.

Jefferson County

Fannett field: Gulf Oil Corp.'s No. 2 Bordages, perforated casing 8,275-85 ft., 845 bbl., ¼-in. choke. Lovells Lake field: Stanolind Oil & Gas Co.'s No. 2-B Steinhagen, 7,723 ft., 72 bbl., 5/64-in. choke.

Liberty County

Hardin field: Humble Oil & Refining Co.'s No. 13-A W. S. Partlow, 7,628 ft., 149 bbl., 12 hours ¼-in. choke. James R. Nowery's No. 1 Humphrey, sand 7,589-7,606 ft., 83 bbl., 3/32-in. choke. Martha field: Stanolind Oil & Gas Co.'s No. 4 Seaberg, 8,379 ft., dry and abandoned.

Polk County

Segno field: Gulf Oil Corp.'s No. 24 Wing, sand 8,129-48 ft., 697 bbl., ¼-in. choke.

Wharton County

Boling field: Titanic Oil Co.'s No. 1 Keiner, 4,318 ft., dry and abandoned. Withers field: Texas Co.'s No. 46-B Pierce estate, sand 5,542-46 ft., 48 bbl., 5/64-in. choke. Texas Co.'s No. 47-B Pierce, sand 5,544½-47 ft., 93 bbl., ⅛-in. choke.

Forest City Basin Activity

(Continued from Page 76)

souri locations, have been delayed by cold weather. The hole is bottomed at 1,069 ft. Operators plan to test a showing of oil. Some other Missouri wildcats are resuming work after shutdowns because of cold weather, mechanical and other difficulties.

J. Bradford & Sons' No. 1 Renner, NW NE SW Section 5-50-33w, Platte County, Missouri, recently was abandoned at 551 ft., total depth. Squirrel sand was found at 383 ft., Bartlesville sand 540 ft.

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Rocky Mountain Area

By
T. R. INGRAM

Only 37 Wells Now Active in 4 States in Northern Rockies

DENVER, Colo., Feb. 5.—The effect of winter on drilling operations in the northern Rocky Mountain area was apparent the past week when only 37 wells in four states and part of a fifth reported progress. Twenty-seven of these were in Lance Creek, Cut Bank, and Kevin-Sunburst where weather conditions may slow down work but seldom cause a complete shutdown. There were no new operations reported and the only completion was one dry hole abandoned in Lance Creek.

Field work in the Southeast New Mexico district was about equally divided between Lea and Eddy counties during the past week. Thirteen locations were made in the district, five in Eddy County and eight in Lea County.

Significant for Eddy County was the fact that all of its locations were in the increasingly active Loco Hills field, one being in the southeast extension area recently opened by Kersey & Co.'s No. 1 Creek. As a west offset to the No. 1 Creek, H. W. Martin has staked his No. 1-A Gates, NE NW NW Section 23-18-30.

Four of Lea County's locations were in the Vacuum field, three being by Magnolia Petroleum Co. and one by Phillips Petroleum Co., two were in the Skaggs field, and one each was in the Maljamar and Hardy fields.

Greatly expanding the limits of the High Lonesome field of northern Eddy County and nearly defining it as a gas area, Carper Drilling Co.'s No. 2 Smith Blake, NE SW SE Section 31-16-29, was completed for 1,000,000 cu. ft. of sweet gas daily through open tubing, from pay drilled from 2,470 to 2,478 ft. The well extends the area about 2 miles to the west from Powell & Mathews' No. 1 Levers, a 4,300,000-cu. ft. gas well completed early in January in the NE SW Section 33-16-29. No. 1 Levers was a 2½-mile south extension from the original Nolen's No. 1 Iles, discovery well for the field.

Northwest of Black River in Eddy County, the projected Delaware-lime test by A. S. Everest and Paul Moran as their No. 1 Ramuz, NE NW Section 18-23-26, has been spudded and is drilling below 325 ft. It is contracted to the lime expected at about 2,000 ft.

Eddy County

Addison's No. 1 Sullivan, 600 ft. from N and E lines, Sec. 29-18-31. P.O.P. 3,573 ft.; pmpd. est. 60 B.O.P.D.
Knox & Brewer's No. 1 Fred Hess, 330 ft. from N and W lines, Sec. 21-16-29. C.&P.
Everts' No. 1 Greer, SE cor. Sec. 31-16-31. C.O. after shot, 3,739 ft.; 1,200 ft. O.I.H.
Everts & Moran's No. 1 Ranuz, NE NW Sec. 18-23-26. Drlg. 325 ft.
L. R. Manning's No. 1 Patton-McClay, 330 ft. from N and 1,650 ft. from E lines, Sec. 21-18-30. Topped oil sd. at 3,009 ft.; drlg. ahead toward regular pay zone; testing pay 3,004-3,133 ft.; H.F.O.; P.O.P. 3,133 ft.; made 41 bbl. in 16 hrs. at 3,041 ft.; tstg. 52 B.O.P.D. on pump.
G. A. Grober's No. 1 Wright, 1,980 ft. from N and W lines, Sec. 25-18-29. Tstg. S.O.&G. 1,382 ft.; est. 10 B.O.P.D.; S.D.O. 1,711 ft.
Mac T. Anderson's No. 1 L. J. Root, 660 ft. from S and W lines, Sec. 27-9-30. Flwd. est. 20 B.O.P.D.; prep. shoot 2,512-57 ft.; flwd. 25 B.O.P.D. through csg.; tstg.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. S.D. for liner 970 ft.
L. E. Elliott's No. 1 Elliott, SE SE SE Sec. 24-18-29. S.S.O. 3,255-75 ft.; S.D.O. 3,435 ft.
J. W. Elliott's No. 1 Cannon (O.W.D.D.), C SW SE Sec. 4-19-30. S.D.O. 3,421 ft.; sulf. wtr.
Trojan Oil Co.'s No. 1 Grant, SW SW NE Sec. 33-20s-25e. S.O. 1,530 ft.; S.D.R. 1,580 ft.
Dodson Drlg. Co.'s No. 1 State, 2,310 ft. from N and 330 ft. from E lines, Sec. 17-16-29, ½ mi. N of Nolen's No. 1 Iles discovery well. C.&P.
Dodson Drlg. Co.'s No. 1 A. H. McElreath, 330 ft. from S and W lines, Sec. 3-16-29, 2½ mi. NE of Nolen's pool opener. Est. 175,000 cu. ft. gas; S.D.O. 2,750 ft.
Anderson's No. 1 Hess, 330 ft. S and W lines, Sec. 10-16-29. Spdr. on ground.
Anderson's No. 1 Neeson, 330 ft. from W and 2,310 ft. from N lines, Sec. 4-16-30. S.O. 1,510-25 ft.; S.I. 2,002 ft.
C. B. Buck's No. 1 State, 330 ft. from S and 4,290 ft. from E lines, Sec. 31-16-29. S.D.R. 2,652 ft.
Carper Drlg. Co.-Tallmadge's No. 2-A Miles-State, 2,310 ft. N and E lines, Sec. 32-17-30. Loc.
Clark & Cooper's No. 1 Ward, 1,980 ft. S and E lines, Sec. 20-16-27. Loc.
Dave Elder's No. 1 Hess, 1,650 ft. from N and 330 ft. from W lines, Sec. 21-16-29. S.D.O. 2,716 ft.
A. E. Frazier's No. 1 H. E. Yates, 330 ft. from N and 1,650 ft. from E lines, Sec. 6-20-27. S.D. 817 ft.
Frederick's No. 1 Reed, 1,980 ft. from S and W lines, Sec. 28-24-38 (O.W.D.D.). Est. 1,500,000 cu. ft. gas at 2,300 ft.; W.O.C. 2,893 ft.
Harvey et al's No. 1 Kistler, 330 ft. from S and W lines, Sec. 9-18-30. Sulf. wtr. 3,202 ft.; P.B. 2,912 ft.; tstg.
Jack Harris' No. 1 Josey, 370 ft. from S and 2,310 ft. from W lines, Sec. 20-20-23. M.I.M.
Wilder's No. 1 Young, 1,650 ft. from N and W lines, Sec. 23-16-29. S.D. csg., 1,820 ft.
Sam Montgomery's No. 1 Kaltenback, 330 ft. from N and W lines, Sec. 24-16-27. S.D.R. 1,265 ft.
Sam Weiner's No. 1 Hess, 330 ft. from S and E lines, Sec. 9-16-29. S.D.R. 1,925 ft.
Thomas & Bowers' No. 1 H. W. Etz, 2,310 ft. from N and 330 ft. from W lines, Sec. 13-16-30. W.O. csg. 2,383 ft.

Chaves County

Comanche Drlg. Co.'s No. 4 Sloop & Purcell, 510 ft. from N line and 330 ft. from E line, Sec. 5-11-26. Loc.
Farrar-Jones-Cunningham's No. 1 Samples, 330 ft. from S and E lines, Sec. 1-7-27. R.U. spdr.
H. E. Yates' No. 1 Johnson, 660 ft. from N and 1,980 ft. from W lines, Sec. 24-15-28. W.O.C. 3,285 ft., T.D.; bridge 1,700 ft. and cmtd.; P.B. 1,700 ft.; S.D.
G. H. Cowden's No. 1 Brunson, 330 ft. N and W lines, Sec. 27-9s-30e. C.&P.
Grastorff-Caudill & French's No. 1-A Smith (O.W.D.D.), Sec. 1-4-29. S.D.R. 3,686 ft.
E. J. Fisher's No. 1 Hill, CSL S½ Sec. 8-15-25. S.D.O. 850 ft.
Helmes & Martin's No. 1 Stephens, 660 ft. from N and 1,980 ft. from E lines Sec. 22-15-29. S.D.O. 1,835 ft.
Sam Sanders' No. 1 T. H. fee, 2,310 ft. from N and W lines, Sec. 25-15-29. Sul. wtr. 3,830 ft.; rng. elec. sur.
T. S. Stanfield's No. 1 Bogle, 330 ft. N line and 2,310 ft. E line, Sec. 27-13-25. R.U.S.T. 923 ft.; S.S.O.

Dona Ana County

Picacho O. & G. Co.'s No. 12 Armstrong, Sec. 15-23s-1w. W.O. csg. 2,620 ft.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. Fsg. 2,785 ft.

Luna County

O. D. Berry's No. 1 Berry, SE SE SW Sec. 33-22s-10w. S.D.O. 1,000 ft.

Lea County

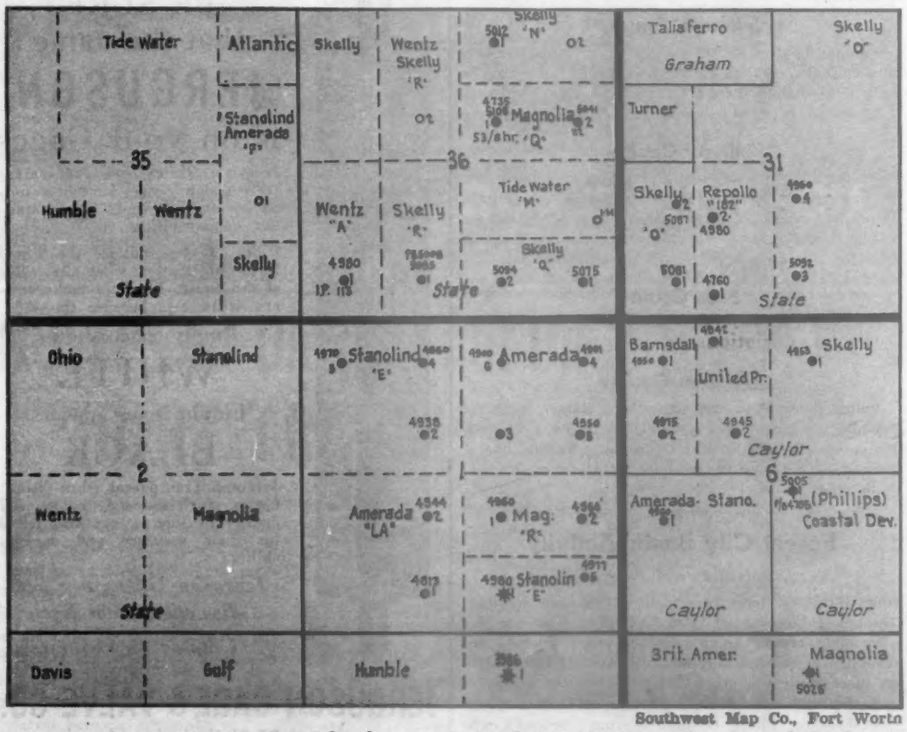
Culbertson & Irwin's No. 1 Lankford, 660 ft. from N and 1,980 ft. from W lines, Sec. 25-23-36. Gas from 2,955-3,007 ft.; increased to 75,000,000 cu. ft. per day at 3,030 ft.; T.D. 3,618 ft.; P.B. 2,970 ft.; milling on iron.
J. D. Barefield's No. 2 Stroup, 1,980 ft. from N and E lines, Sec. 12-18-32. U.R. 718 ft.; T.D. 795 ft.
Argo Oil Corp.'s No. 1 Texas Co.-State, west offset to Westlea Oil Co.'s pool opener, S.I.; storage; swbd. 100 B.O.P.D.; T.D. 2,657 ft.; P.O.P.
Westlea Oil Co.'s No. 1 Texas Co.-Cleveland, 2,310 ft. S of Westlea pool opener and 330 ft. from N and 1,980 ft. from W lines, Sec. 21-20s-32e. S.D.O. 2,672 ft.; sulf. wtr.

Otero County

Ernest's No. 1 Ernest, Sec. 20-25-7. Drlg. 2,513 ft.
Otero Oil Co.'s No. 1 State, SE NW Sec. 5-22-10. S.D. 736 ft.

Socorro County

Joiner Oil Corp.'s No. 1 Belen Grant, 2,310 ft. N and W lines, Sec. 16-3-1. Loc.



Southwest Map Co., Fort Worth

Lovington pool in northern Lea County has been given several outpost locations and producers during the past month and promises to be one of the more active areas in the district during the coming months

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

Carper Drilling Co.'s No. 2 Blake, SW SE Section 31-16-29, in High Lonesome field, 2,470-78 ft., 1,000,000 cu ft. of sweet gas daily through open tubing, naturally. In the Loco Hills field Franklin Petroleum Co.'s No. 1 Coppedge, NW SW NW Section 5-18-30, temporarily abandoned at 3,413 ft. Underwood and others' No. 4 P Guy, SW NE Section 9-18-29, pay section from 2,458-87 ft., 150 bbl. daily through open tubing after shot.

A wildcat 2 miles south of Loco Hills field, Plains Production Co.'s No. 1 Massie, SW SW Section 27-18-29, temporarily abandoned at a plugged-back depth of 2,550 ft. from 3,245 ft.

Lea County

In the Vacuum field Humble Oil & Refining Co.'s No. 14-K State, NW SW Section 28-17-35, pay from 4,500-4,650 ft., 72 bbl. in 6 hours through ¾-in. choke after

acid. Magnolia Petroleum Co.'s No. 3-P State, NW NE Section 26-17-35, pay from 4,515-70 ft., made 214 bbl. daily after shot.

In the Monument field Guy H. Hooper's No. 1 Record, NE cor. SE NE Section 15-20-36, plugged and abandoned at 1,301 ft.

In the Langlie field, Skelly Oil Co.'s No. 2-L State, SW NW Section 2-25-37, pay from 3,365-3,421 ft., flowed 168 bbl. through 1-in. choke, naturally, daily.

In the Lovington field Tide Water Associated Oil Co.'s No. 1-M State, NE SE Section 36-16-36, pay from 4,640-5,068 ft., made 75 bbl. oil and 6 per cent water, pumping, per day after acid.

In the Wilson field Wilson Oil Co.'s No. 3 Shell-State, NW SW Section 7-21-35, pay from 3,715-3,808 ft., made 310 bbl. daily, pumping, after shot.

In the South Maljamar field Barefield's No. Walker, SE NE Section 5-18-32, pay from 3,685-3,724 ft., made 44 bbl. daily, pumping, after shot.

In the Halfway field Westlea Oil Co.'s No. 2-C Cleveland, NW NW Section 21-20-32, abandoned location.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc.'s No. 2 North Albuquerque, NE SE NW Sec. 19-11n-4e. S.D. 4,775 ft.
Norins Realty Co., Inc.'s No. 2 Pajarito, Sec. 22-9n-1e. Drlg. below 2,000 ft.

San Juan County

The Continental Oil Co.'s No. 100 Rattlesnake, the third well drilled to the Pennsylvanian in the Rattlesnake field, is preparing to test at a total depth of 7,407 ft., where it suspended drilling in quartzite. The 7-in. was cemented at 7,398 ft. and then plugged back to 6,800 ft. and casing was perforated at 6,724-29½ ft. It is now swabbing through the tubing. On the way down it was unofficially reported to have shown oil and gas at 6,720-40 ft. The well is located 1 mile west of No. 17 and ¾ mile northwest of No. 24, the other two wells drilled to the deep pay, both of which were producers.

Angel Peak Oil Co.'s No. 9 fee, C NE NW Sec. 24-28n-11w. M.I.M.
Continental Oil Co.'s No. 102 Rattlesnake, SE SE SW Sec. 12-29n-19w. Drlg. 595 ft.
Continental Oil Co.'s No. 100 Rattlesnake, SE NW NE Sec. 2-29n-19w. T.D. 7,407 ft.; P.B. to 6,800 ft.; perf. 7-in. at 6,724-29½ ft.; swbg.

San Miguel County

Ben E. Keith's No. 1-X McCune, SW SE SW Sec. 32-16n-12e. Cg. 750 ft.

Socorro County

Joiner Oil Corp.'s No. 1 Belen Grant, SE NW Sec. 16-3n-1e. T.D. 600 ft.; rng. 10-in. to bttm.

COLORADO

El Paso County

F. F. Hintze et al's No. 1 State, CEL SE SE Sec. 16-11s-60w. Drlg. below 855 ft.

Huerfano County

I. E. Sideman-White et al's No. 1 Martinez, C SW NE Sec. 33-36n-67w. Rig.
Harold F. Collins et al's No. 1 Bartlett-Howard, SE NW Sec. 3-28s-68w. S.D. 468 ft.; acct. weather.

La Plata County

Nick Spatter's No. 1-X Bryce, C SW SW Sec. 31-33n-9w. Drlg. below 2,635 ft.; 5-in. at 2,630 ft.

Montezuma County

McElmo Oil Co.'s No. 1 West, NE NW NE Sec. 31-36n-17w. Drlg. 5,285 ft. in blk. L.&sh.; S.S.O.; est. 2,000,000 cu. ft. gas at 5,241 ft.

Park County

South Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. S.D., temp. 7,172 ft.

Moffat County

Great Divide Pet. Co.'s No. 1 Wyatt, SE¼ Sec. 6-9n-92w. S.D. 724 ft.; 10-in. frozen at 650 ft.; will res. as soon as weather cond. improve.

Routt County

L. C. Craig-E. L. Moore's No. 1-X Erwin, C SW NE Sec. 33-7n-85w. T.D. 2,220 ft.; trying to recmt. 6⅝-in. at 2,055 ft.

Washington County

Thurman Oil, Tr.'s No. 1 Ruby, NW NW SW Sec. 3-5s-52w. Drlg. below 1,160 ft.

WYOMING

Big Horn County

Frank S. Scott's No. 1 Robertson, SE SE SE Sec. 6-54n-93w. S.D. 650 ft.; acct. weather.
Yale Oil Corp.'s No. 1 Simonson, Lot 53, Sec. 34-55n-97w. Drlg. 1,185 ft.

Carbon County

Tri-State O. & R. Co.'s No. 17, NW SE NW Sec. 20-21n-80w. Drlg. 184 ft.
Sinclair-Wyoming Oil Co.'s No. 4-E, C SE SW Sec. 29-26n-87w. Drlg. 4,120 ft.; T. Embar L. 3,955 ft.
Albert Dev. Synd.'s No. 1 Boeke, SW NW Sec. 18-25n-79w. S.D.O. 922 ft., in grnt.

Converse County

Shawnee Expl. Co.'s No. 1 Salisbury, SE SW NE Sec. 27-32n-69w. B.R. and M.I.M.

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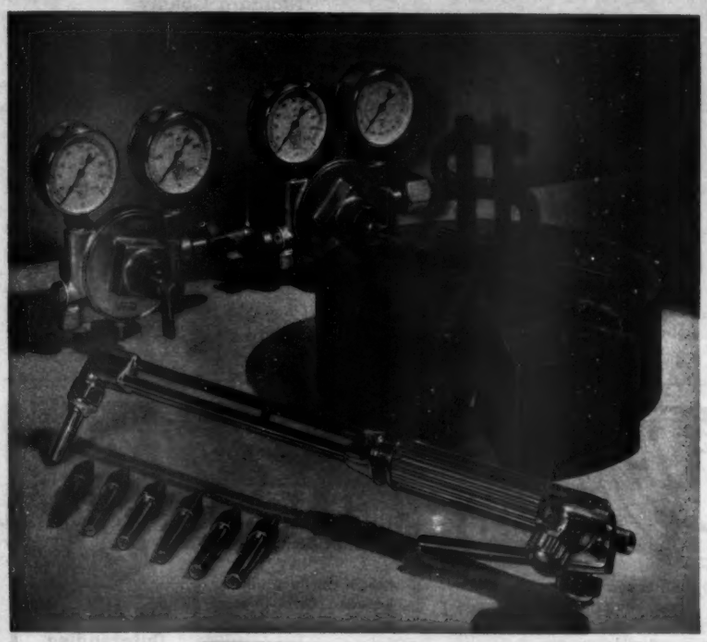

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Fremont County

Lincoln O. & G. Co.'s No. 8 Tribal, CEL NE SW Sec. 23-1s-1e. T.D. 457 ft.; recond. to D.D.
Lincoln O. & G. Co.'s No. 7 Tribal, SE NE SW Sec. 23-1s-1e. S.D. 424 ft., temp.
Consolidated Oil Properties, Inc.'s No. 3 Ewart, C SW SE Sec. 16-1n-1w. S.D. 1,530 ft.
F. F. Hintze's No. 1 Jones, CWL NW NW Sec. 7-28n-92w. T.D. 1,117 ft.; est. 10,000,000 cu. ft. gas in 2nd Frontier; S.D.

Hot Springs County

Oscar B. Grace's No. 5 Govt., Lot 3. SE NW Sec. 21-43n-92w. Spdg. 15 ft.; Kirby Creek dist.
John W. Selby's No. 1 Kyne, SW NW Sec. 22-43n-92w. S.D. 732 ft.; weather.
J. W. Bales' No. 1 Govt., CWL NW SE Sec. 21-42n-90w. T.D. 762 ft.; cmtd. 12½-in. on bttm. to S.O.W. in Muddy sd. at 702-20 ft.

Lincoln County

H. C. Harris' No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. L. 2,612 ft.
Fontenelle Dev. Co.'s No. 1 Pomroy, NE SW Sec. 5-24n-113w. Drlg. 100 ft.; surf. csg. at 25 ft.

Natrona County

General Pet. Corp.'s No. 1-21-G, NW NW NW Sec. 21-35n-77w. Drlg. 6,450 ft.
Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. T.D. 7,331 ft.; bailed ¾ B.O. and ¾ B.W. per hr. after perf. with 50 additional holes at 5,628-85 ft.; S.D. for winter.

Niobrara County

A. B. Cobb's No. 5 Novick, NE NE NW Section 6-35n-65w, an outside well on the west side of the Lance Creek field, was plugged and abandoned at 5,601 ft. in black shale believed to be of Cretaceous age. This well, with Argo's No. 1 Ong, which it offsets on the south, points to a nonconformity of some kind in that area. No. 5 Novick had the top of the red beds at 4,669 ft. and slight saturation in sand at 5,527-29 ft. It apparently went out of the red beds into black shale and bentonite, the same as the Argo well on the north. The latter went into black shale and bentonite at 5,623 ft. and was abandoned at 5,653 ft. It is believed the two wells are located in an underthrust fault block. Continental Oil Co.'s No. 10 Otto Rohlff, an east offset to the Argo well and a northeast offset to the Cobb well, was completed last fall in the Leo sand at 5,373-5,449 ft. for 1,894 bbl. the first 24 hours.

An extension of the Sundance sand on the east is imminent in the Continental Oil Co.'s No. 3 Rodeo-4, SE NE NE Section 35, an outside well to the east of the group of Sundance producers completed in 1939 which extended the proven area. It cored saturated Sundance sand at 4,303-15 ft. and in a Halliburton test at that point showed 300 ft. of oil in 18 minutes. The 4½-in. has been cemented on top of the sand and it is preparing to test.

Minnelusa Oil Corp.'s No. 1 Ford, SW NW NE Sec. 33-36n-65w. Drlg. 1,540 ft.; cmtd. 13-in. at 301 ft.
Continental Oil Co.'s No. 6 Apex-O.P.C.-4, SW NW NW Sec. 35-36n-65w. B.R.
Ohio Oil Co.'s No. 14 Carrie Putnam, SW NW SW Sec. 33-36n-65w. B.R.; (cor. loc.).
Ohio Oil Co.'s No. 15 Carrie Putnam, NW NE SW Sec. 33-36n-65w. C.&P.
Continental Oil Co.'s No. 10-B Schuricht, SE SE SE Sec. 6-35n-65w. Rng. drk. found.
Continental Oil Co.'s No. 6-A Schuricht, SE NE NE Sec. 6-35n-65w. Rng. drk. found.
Continental Oil Co.'s No. 5 Apex O.P.C.-1, NE SW NE Sec. 34-36n-65w. Rng. drk. found.
Argo Oil Co.'s No. 8 Ford, SE NE NW Sec. 33-36n-65w. Drlg. 3,990 ft.; T. first Sundance 3,902 ft.
Argo Oil Co.'s No. 12-A Elliott, SE NW NE Sec. 7-35n-65w. Drlg. r.b. 4,204 ft.; nothing important in Sundance.
Minnelusa Oil Corp.'s No. 4 H. & M., NE NE SE Sec. 7-35n-65w. Drlg. 2,285 ft.
Minnelusa Oil Corp.'s No. 1-B Joss, NE SW NW Sec. 7-35n-65w. Cg. 5,403 ft.
Ohio Oil Co.'s No. 4 Cash-1, NW NE SW Sec. 4-35n-65w. Cg. in Leo sd. at 5,475 ft.; T. 5,459 ft.
Ohio Oil Co.'s No. 6 Rohiff, SE NW NE Sec. 32-36n-65w. Drlg. 2,628 ft.
Continental Oil Co.'s No. 5 Apex-O.P.C.-2, NW NW SE Sec. 34-36n-65w. Cg. 5,403 ft.; T. Leo 5,355 ft.; cmtd. 7-in. at 5,363 ft.
Continental Oil Co.'s No. 17 Tom Bell, SE SE NE Sec. 33-36n-65w. Cg. 5,300 ft. in Leo sd.; T. 5,243 ft.
Continental Oil Co.'s No. 3 Rodeo-4, SE NE NE Sec. 35-36n-65w. T.D. 4,313 ft.; cmtd. 4½-in. at 4,302 ft.; W.O.C.
H. D. Moore's No. 1 Berggren, SE NW Sec. 23-35n-63w. Drlg. 2,526 ft.

Sublette County

California Oil Co.'s No. 1 Unit 1, C SW NE Sec. 14-31n-109w. T.D. 10,003 ft.; S.D. for winter.
North La Barge Oil Co.'s No. 1 Govt., SW NE SE Sec. 8-27n-113w. S.D. 1,440 ft.; weather.
Wyo. Pet. Corp.'s No. 1 Chas. Budd, C NE NE Sec. 10-29n-113w. T.D. 3,054 ft.; may drill offset to gas sd. and continue as deep test.
Yellowstone Oil Co.'s No. 1 Budd, SW SE SE Sec. 6-30n-112w. T.D. 1,400 ft.; landed 10-in. on bttm. for W.S.O.

Sweetwater County

Vermillion Oil Co.'s No. 2 Govt., SW SW SW Sec. 7-12n-99w. Drlg. 2,516 ft.; dry sd. at 2,475-2,500 ft.
Sinclair-Wyoming Oil Co.'s No. 90-A, SW SW NW Sec. 11-26n-90w. S.D. 1,750 ft. to install new boiler.

Uinta County

Stove Creek Oil Co.'s No. 1 Govt., NE SW NE Sec. 26-14n-119w. S.D. 2,410 ft., in sh.
Meridian Oil Co.'s No. 1, NW NW NE Sec. 26-13n-119w, Evanston dist. Drlg. 800 ft.
Spring Valley Pet. Co.'s No. 13, CSL SE SE Sec. 22-15n-117w. Drlg. 1,850 ft.

Weston County

Bruce C. Teeter's No. 1 State, C SW NE Sec. 36-42n-61w. T.D. 2,287 ft.; set whpstk. and drlg. by.
Butcher Bros.' No. 5, SW NW NE Sec. 16-46n-63w. R.O.G.
Gose Oil Synd.'s No. 1, NE NE NE Sec. 28-47n-63w. Drlg. 4,950 ft.
F. J. Dilger, Tr.'s No. 17, SW NW SW Sec. 30-46n-63w. Drlg. below 300 ft.
Aitkin & Hultgren's No. 1, CNL NW SE Sec. 16-46n-63w. R.O.G.
Chas. F. Marten's No. 21, NW NE NE Sec. 19-46n-63w. Shot sd. at 1,270-79 ft.; C.O.
Osage Trust Co.'s No. 6 McCullough, SW NE SW Sec. 33-46n-64w. Drlg. below 1,200 ft.

MONTANA

Big Horn County

Dr. Crosby's No. 1 Pat, SE SE NE Sec. 16-1s-13e. S.D. temp., 1,000 ft., Toluca dist.

Carbon County

Henderson Prod. Co.'s No. 3 Woods, SW SE NE Sec. 35-9s-23e. Drk.; W.O. weather.
Miracle Oil Co.'s No. 2 Govt., CWL NE SE Sec. 3-6s-23e. T.D. 2,338 ft.; C.O. at 1,590 ft.; to res.
Ohio Oil Co.'s No. 9 Souders, C NE SW Sec. 2-7s-21e. T.D. 5,511 ft.; pmpg. in attempt to exhaust wtr.
R. C. Tarrant's No. 2 McKay, C SE NW Sec. 4-6s-18e. T.D. 2,625 ft.; tools rec.; prep. res.

Choteau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23-26n-3e. S.D. 2,091 ft. to fill in lease blk.

Glacier County

British American Oil Co.'s No. 12 Tribal, C SE NW Sec. 34-35n-6w. Rig.
R. C. Tarrant's No. 5 State, NW NE SE Sec. 36-34-6w. Rdy. to spd.
Santa Rita O. & G. Co.'s No. 4 Lander, C SE SW Sec. 16-35n-6w. Drlg. 1,950 ft.
Helmac, Tr.'s No. 3 Govt., Lot 3, Sec. 32-33n-5w. R.O.G.
R. C. Jeffries' No. 1 Exchange Oil Co., C NW NW Sec. 34-35n-6w. Drlg. 2,250 ft.; Colo. 550 ft.
Glacier Prod. Co.'s No. 6 State, CWL NW¼ Sec. 16-33n-5w. Drlg. 1,810 ft.
Glacier Prod. Co.'s No. 3 Scheuren, C SW SE Sec. 20-33n-5w. Drlg. 2,240 ft.
Glacier Prod. Co.'s No. 2 Lookhoff, C NW NE Sec. 33-33n-5w. Drlg. 2,635 ft.
Santa Rita O. & G. Co.'s No. 2 Rasmussen, NE SW SW Sec. 32-33n-5w. Drlg. 2,400 ft.
A. B. Cobb's No. 1 Osuri, C SW NW Sec. 30-37n-4w. Spdg.

(Continued on Page 89)

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28-40 PENN AVE. CF PITTSBURGH, PA.

Impassable Roads Hold Back Work in Old Lower District

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Feb. 3.—Severe weather and impassable roads retarded development work in the lower Eastern fields.

In Southeast Ohio, Athens County, A. D. Townsend completed a second well on the M. H. Loeffler farm in Section 6, Lodi Township, in first Berea sand at 1,630 ft. It is a gasser, gaging 40,000 cu. ft. a day. On Pratts Fork, Section 19, same township, McBill Oil Co. completed a gas well on the R. O. Burson farm in second Berea at 1,645 ft. It gaged 25,000 cu. ft. a day. In the same locality Ross, Weimer, and Ross completed No. 9 G. P. Ackley at 1,539 ft., Berea sand, and it gaged 20,000 cu. ft. a day.

In Medina County Marine Trust Co. completed three wells as output wells in its repressuring and waterflooding in Chatham Township.

SOUTHWEST PENNSYLVANIA

In Armstrong County Equitable Gas Co. has a 36,000-cu. ft. gasser on the D. W. Raraigh farm in Cowanshannock Township at 3,582 ft., Bradford sand, and is drilling at 975 ft. in No. 3. T. W. Phillips Gas & Oil Co. is drilling at 1,400 ft. in No. 2 Harry Boyer, and at 825 ft. in No. 2 Jacob Boyer. Apollo Gas Co. is down 2,970 ft., in Speechley sand, in the Hulda Bleakney test. The Peoples Natural Gas Co. is rigging up the A. S. Rearick test.

In Boggs Township John Wray & Co. had reached 1,700 ft. on the David Zimmerman heirs test, and 2,300 ft. in No. 2 Samuel Yockey. In Kiskiminitas Township Apollo Gas Co. was drilling at 2,725 ft. in No. 2 Tressler. T. W. Phillips Gas & Oil Co. is drilling at 340 ft. on the John McKinney land. Peoples Natural Gas Co. is drilling by lost tools at 1,035 ft. in No. 2 J. M. Dunmire. Broman and Dorcey are testing for production in No. 5 M. M. Martin. In Kitanning Township Edward Young is drilling at 3,075 ft. in the Hugh Blair test. In Plum Creek Township Peoples Natural Gas Co. is building rig on the Frank Smith farm. William McCollins was down 1,586 ft. on the Add Reefer farm. In South Buffalo Township Walter Baker made a location on the James Bush farm.

Clarion-Indiana-Westmoreland

In Clarion County Owens-Illinois Glass Co. completed the second test on the Lewis Keck farm in Red Bank Township in the Murraysville, Hundred Foot, Speechley, and Ballitown sands at 2,562 ft., with a total gage of 76,000 cu. ft. a day. In Porter Township T. W. Phillips Gas & Oil Co. made a location for No. 3 T. C. Blair.

In Indiana County T. W. Phillips Gas & Oil Co. drilled on the J. L. Jewell farm in Blacklick Township through Bradford sand to 3,548 ft. and got a dry hole. In Cherryhill Township Phillips is drilling at 2,510 ft. in the Charles Tyack test. In White Township the company is reaming at 1,200 ft. to shut off salt water in the H. B. Deabenderfer test.

In Washington Township, Indiana County, Dr. Mehan and others drilled a dry hole on the George Nesbitt farm through the Murraysville sand to 1,400 ft. J. Cloid Rimer is drilling at 875 ft. in the Perdon heirs test.

In Westmoreland County Kiski Valley Gas Co. shot Bradford sand in the John Beighley test in Bell Township and was cleaning out. In Allegheny Township Apollo Gas Co. had reached 262 ft. in the B. M. Jones heirs test and has a crooked hole.

Greene-Fayette

In Wayne Township, Greene County, Manufacturers Light & Heat Co. completed No. 3584 J. Tustin heirs at 3,390 ft. It gaged 236,000 cu. ft. a day from the Fifth and Bayard sands.

In Richhill Township, Greene County, O. I. Dille and others reached 1,532 ft. on the Madison Hughes farm and the casing collapsed. The rig will be skidded for a fresh start.

In Fayette County the Duquesne Gas Co. made a location for No. 3 John Demaske, in Nicholson Township.

Washington County

In South Franklin Township, Washington County, Union Gasoline & Oil Corp. has rigged up No. 828 C. T. Conn farm. Foley and Williams were drilling No. 3 Rankin Clark at 560 ft. Manufacturers Light & Heat Co. is down 2,789 ft., deepening No. 2294 Esther Kerr, in East Finley Township.

In South Fayette Township, Allegheny County, the Equitable Gas Co. is drilling at 1,385 ft. in the J. Hickman test. In Somerset Township, Washington County, same company is drilling at 1,950 ft. in the Weir heirs test.

In Middlesex Township, Butler County, Heck, Larkin and others are drilling at 1,820 ft. in the G. Jeuther test. In South Fayette Township, Allegheny County, Dunn Brothers and others are testing No. 2 J. J. Bowman at 2,725 ft.

Deep Tests

Hazardous conditions delayed work in Fayette County. On Chestnut Ridge in North Union Township, New Penn Development Co., William E. Snee and others' No. 1 Piedmont Coal, is still shut down at 6,800 ft. with the gas needed in the lines. It will be deepened as soon as practicable. In Maryland these operators made some headway on the Humberson farm on the Accident dome in Garrett County with the depth now 5,436 ft.

In Stewart Township, Fayette County, same operators and E. G. Mueller are drilling at 4,400 ft. in the test on the Gregg L. Neel farm on Laurel Ridge.

WEST VIRGINIA

In Clay County, West Virginia, W. E. McKnight completed a 10-bbl. well on the C. C. Smith farm in Henry district at 1,450 ft., Salt sand.

In Ritchie County Mole Hill Oil & Gas Co. completed No. 4 on the Zackquel Darnell farm in Clay district in the Cow Run sand, 680-82 ft., a 2-bbl. well.

Outside Deep Tests

In Grant district, Jackson County, Joe Rubin and others are testing the gas in No. 1 Henry Morrison, and preparing to shoot the Oriskany sand. It will be a solid shot throughout the sand with water above the shot. Difficulty is being had with the surge of the gas.

In Ripley district Everett Starcher and others completed the test on the Estill Boggess farm at 5,152 ft.; Oriskany topped at 5,073 ft., and a gage of 146,000 cu. ft. a day before the shot. This operator is drilling at 3,830 ft. in the W. L. Fisher test. Godfrey L. Cabot, Inc., is drilling at 2,625 ft. in No. 3 Putnam Co. Columbia Carbon Co. is down 3,084 ft. in No. 2 Putnam Co., and at 3,328 ft. in No. 3. In Washington district, this company is drilling at 5,248 ft. in No. 1 Putnam Co.

Oriskany Gas Field

In Poca district, Kanawha County, Brawley-Reid Gas Co. completed the test on the J. F. Jordan farm at 5,008 ft. with the Oriskany topped at 4,994 ft. and a final gage of 3,544,000 cu. ft. a day. West Virginia Gas Corp. completed the test on the P. B. Garnes farm at 5,015 ft. with the Oriskany topped at 4,944 ft., and a final gage of 1,616,000 ft. a day. Columbian Carbon Co. topped the Corniferous lime at 5,126 ft. on the B. H. Richards farm, and set 7-in. casing at 5,016 ft., also the Corniferous, on the Walter Payne farm. This company is drilling at 1,655 ft. on the Ida B. Mairs farm with the Big lime topped at 1,576 ft.

In Elk district Columbian Carbon Co. is down 1,456 ft. on the Leonard C. Hanna farm, with the Big lime topped at 1,424 ft. United Carbon Co. is drilling at 3,550 ft. in No. 815 W. J. Bumgardner and others, and

(Continued on Page 90)

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North Louisiana, Arkansas

By GEORGE WEBER

Sugar Creek, La., Oil Area May Extend Northeastward

SHREVEPORT, La., Feb. 5.—The Junction City wildcat of Barnsdall Oil Co. in Union County, Arkansas, took on importance last week as it approached the Smackover lime. Other important developments of the week included an apparent extension to Sugar Creek oil production in Claiborne Parish, Louisiana, and the progress of several wildcats in the two states.

Barnsdall Oil Co.'s No. 1 Cameron,, C SW NW Section 36-19-17, 5 miles west of Junction City, Ark., is at a critical depth. Coring in the Buckner formation below 8,848 ft., the wildcat previously showed a 13½-ft. recovery of hard, tight, slightly porous red sand at 8,705-20 ft. At latest report it was coring below 8,875 ft., not yet in the Smackover lime. The well is running much lower than operators had anticipated. It was believed at first that the Smackover might be topped at about 8,300 or 8,500 ft., but indications now are that it may not be found above 9,000 ft.

Sugar Creek Extension

A revived interest in Sugar Creek has developed from current operations in a northeast-extension test. Sugar Creek Syndicate's No. 1 Robinson, NE SE Section 32-20-5, cored oil sand at 5,751-72 ft., was carried to a total depth of 5,815 ft., and is running 5½-in. casing to a depth of 5,790 ft. for an early production test. This well, if successful, will bring the fourth oil well to the Sugar Creek field. The field has gas production in the lower Glen Rose and Travis Peak formations, and the current operation is a prospective Travis Peak producer. It is located about ½ mile northeast of a Travis Peak oil well. Last year, Union Producing Co. drilled No. 2 Brownfield about 1 mile southwest of the present drilling test, and carried it to the lower Marine formation, and a total depth of 10,120 ft. This attempt to find production in the horizon, which has yielded so prolifically of gas-condensate and oil in nearby Cotton Valley, was a failure.

Pine Island Gasser

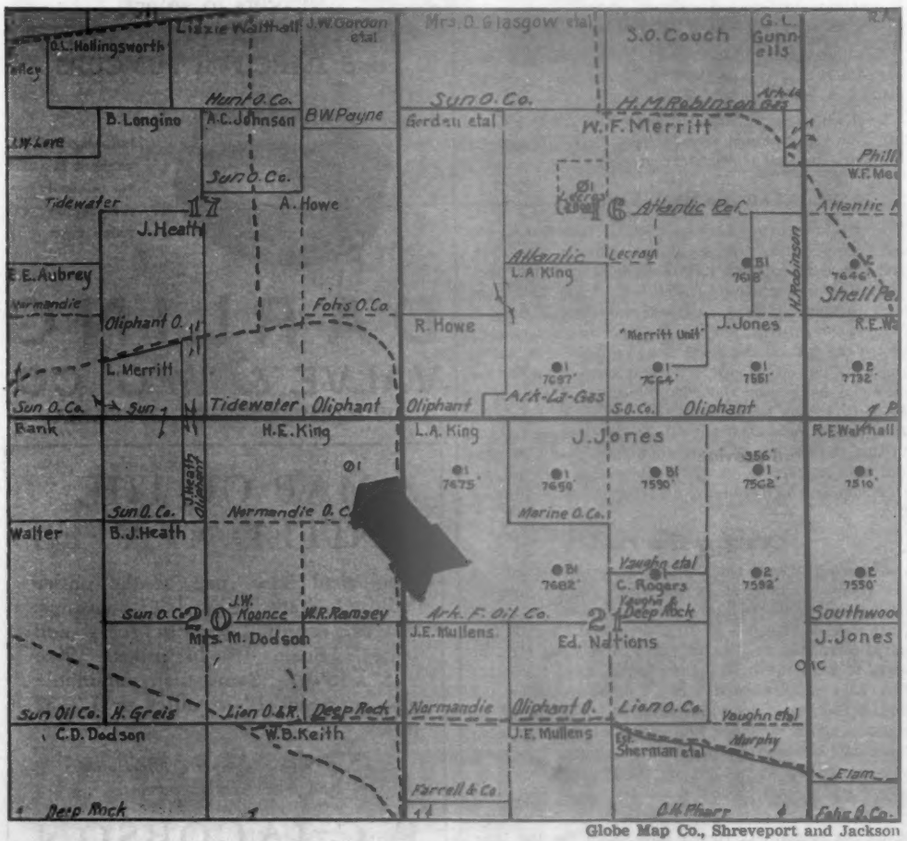
Following a thorough exploration of the deep possibilities in the Pine Island field of Caddo Parish, Stanolind Oil & Gas Co. is completing No. 131 Dillon heirs, in a shallow gas horizon. The test, drilled to a total depth of 11,419 ft., was plugged back and perforated in several prospective zones, without success. Last week after milling the 9⅝-in. casing at 3,930-36 ft., perforations were shot at 3,930-38 ft., and a 25-minute drill-stem test, using ⅝-in. chokes, top and bottom, showed an estimated 25,000,000 cu. ft. of gas per day. Tubing was run to 3,929 ft., and the test swabbed dry. After shutting it in for 8 hours, the operators reopened the well and it made 1⅛ million cubic feet of gas and about 150 bbl. of salt water through a 23/64-in. choke. At later reports it was shut in with tubing pressure at 890 lb. and casing pressure at 875 lb.

At the level at which the Stanolind test is attempting completion several other tests at Pine Island have in the past been completed for gas or oil wells. Their importance, however, has not been great. In 1926, Ohio Oil Co. tested hot salt water at 3,829 ft. in No. 1 Ardis, after showing gas at 3,920 ft., and the same operator's No. 25 Smith, carried to a depth of 6,000 ft., was abandoned after showing salt water at 4,369 ft. Dixie Oil Co. had better results, getting some large gassers in wells testing from 3,620 to 6,351 ft., and the same company in 1928 brought in No. 9 Clark making 160 bbl. of oil at 3,956 ft., and later recompleted the well at 3,988 ft. making 165 bbl. of oil, blowing with air.

In Bossier Parish Gulf Refining Co.'s No. 20 Hodges, a deep test in the Elm Grove field, tested 220 ft. of mud at 8,261-93 ft. and is coring ahead in hard gray lower Marine sands at 8,318 ft. It is expected that the test may still be above the Bodcaw horizon of the lower Marine formation, and that if a porous section of the hard sand, similar to that found at Cotton Valley, is penetrated, chances are excellent for obtaining production.

Elsewhere in North Louisiana Harry Hanbury and others' No. 1 Holston unit, a Bienville Parish wildcat near Acadia, is drilling shale and lime below 5,226 ft., and in La Salle Parish Hunt Oil Co. and Arkansas Fuel Oil Co.'s No. 1 Goodpine, 6 miles east of Urania, is drilling below 5,930 ft.

Interest is revived in the Union County, Arkansas wildcat, Delta Drilling Co.'s No. 1 C. T. Grace. This test, located east of El Dorado, has been shut down for several weeks, but operators are now washing to bottom at 6,819 ft. and will retest horizons which previously showed oil.



Globe Map Co., Shreveport and Jackson

Normandie Oil Corp.'s No. 1 H. E. King, west-edge test of the Magnolia field of Columbia County, South Arkansas, is washing in for a possible extension to the state's largest field. Magnolia is approaching its maximum number of wells, estimated at 100

NORTH LOUISIANA COMPLETIONS

Wildcat—Bossier Parish

J. K. Wadley's No. 1 Vance estate, 1,739 ft. north and 277 ft. east of SW cor. Section 4-19-13, dry and abandoned, total depth 2,690 ft.

Caddo—Caddo Parish

Jones Oil Co.'s No. 1 Pitts, Section 24-20-16, old total depth 1,679 ft., plugged back to 1,630 ft. and tested salt water, abandoned. L. R. Skidmore's No. 1 Landau, Section 1-20-16, pumping 50 bbl., acidized with 2,000 gal., total depth 1,380 ft. Alf Tillman's No. 1 Greer, Section 12-20-16, pumping 50 bbl., acidized with 2,000 gal., total depth 1,520 ft. Whitehurst Drilling Co.'s No. 1 Shreveport Petroleum Co., Section 2-20-15, pumping 40 bbl., total depth 1,554 ft.

Zwolle—Sabine Parish

Texas Co.'s No. 3-B Glauque, 660 ft. south and east of C Section 10-7-13, tested salt water and abandoned, total depth 2,450 ft.

Monroe—Union Parish

Southern Carbon Co.'s No. 35 Grayling, Section 17-21-4, 8,214,000 cu. ft. of gas, rock pressure 740 lb., total depth 2,150 ft. We Hope Gas & Oil Co.'s No. 9 Frost Lumber Industries, Section 24-22-3, 2,112,000 cu. ft. of gas, rock pressure 990 lb., total depth 2,215 ft.

ARKANSAS COMPLETIONS

Schuler—Union County

Lion Oil Refining Co.'s No. 1 Land, C NE SW SE Section 13-18-18, 248 bbl., 12/64-in. choke, tubing pressure 600 lb., tubing set on packer at 7,530 ft., reperforated at 7,550-60 ft., total depth 7,645 ft. Phillips Petroleum Co.'s No. 1 S. H. Goodwin, C SW SE Lot 1, NW¼ Section 19-18-17, 216 bbl., 24/64-in. choke, tub-

ing pressure 125 lb., casing pressure 550 lb., total depth 7,690 ft.

Production by Pool

Estimated daily gross production, all companies, week ended February 3:

NORTH LOUISIANA

	Bbl.
Bellevue	470
Caddo, light	5,165
Caddo, heavy	2,240
Converse	510
Cotton Valley	*14,325
Cross Lake	5,065
De Soto and Red River	1,090
Elm Grove	310
Haynesville	2,735
Holly	80
Homer	2,730
Lisbon	4,540
Pleasant Hill	90
Rodessa	22,040
Sarepta-Carterville	†325
Sligo	1,860
Sugar Creek	330
Urania	2,610
Zwolle	1,860
Total North Louisiana	68,375

SOUTH ARKANSAS

Atlanta	815
Big Creek	shut in
Buckner	2,515
Champagnolle	1,340
Dorcheat	1,330
El Dorado	1,700
Lewisville	500
Lisbon	235
Magnolia	20,600
Miller County	245
Nevada	565
Rodessa	2,235
Schuler	18,565
Smackover, light	1,820
Smackover, heavy	14,000
Stephens	530
Troy	1,300
Urbana	940
Village	1,425
Total South Arkansas	70,660

*4,125 bbl. is distillate. †110 bbl. is distillate. Texas side of Rodessa 25,500 bbl.

Rocky Mountain Area

(Continued from Page 86)

Cobb-Reagan's No. 4 Jackson, SW SW SE Sec. 5-32n-6w. R.U.R.

Hill County

J. Gudgel's No. 1 Federal Ld. Bnk., C SE SW Sec. 19-33n-15e. Drlg. 300 ft.

Petroleum County

Watson Oil Co.'s No. 1 Austed, SW NW SE Sec. 22-13n-28e. Drlg. 1,590 ft.

Toole County

Mosby Oil Corp.'s No. 3 Pederson, SE NW SE Sec. 7-35n-2w. S.D. 80 ft.

Big West Oil Co.'s No. 16 Dahlquist, SW NW NE Sec. 28-35n-3w. T.D. 1,660 ft.; 1,000,000 cu. ft. gas in Sunburst at 1,445-60 ft.; rng. 7-in.

Coolidge & Coolidge's No. 2 McCurdy, NE NW NW Sec. 11-35n-3w. T.D. 1,710 ft.; Sunburst 1,613-85 ft.; rng. 7-in.

Casper T. Oien's No. 9 Engemoen, NW NE NW Sec. 14-35n-2w. S.D. 70 ft.

L. J. Yealy's No. 14 Shaw, NW SW NE Sec. 35-36n-2w. R.O.G.

Lemac Oil Co.'s No. 1, C NE NE Sec. 27-36n-2w. T.D. 1,660 ft.; cmtd. 7-in. on bttm.; no Sunburst sd.

Frazier & Smith's No. 2 Van Note, NE SW NW Sec. 30-35n-2e. T.D. 1,350 ft.; cmtd. 7-in. on bttm.

Coolidge & Coolidge's No. 1 Maley, SW NE SE Sec. 31-36n-1w. S.D. 100 ft.

W. E. Rice Co.'s No. 4 Kearns, Lse. 8, C W½ E½ SE Sec. 18-35n-2w. T.D. 1,570 ft.; rng. 6⅝-in.

C. L. Smith, Agt.'s No. 1 Govt., SW SE NW Sec. 13-35n-2w. T.D. 1,345 ft.; cmtd. 7-in. at 1,265 ft.

Morton & Shaw's No. 2 Ellingson, SE NE NW Sec. 23-35n-3w. S.D. 780 ft.

Superior Pet. Co.'s No. 3 Haugen, C NE NE Sec. 11-35n-3w. S.D. 880 ft.

Yellowstone County

Calitana Oil Co.'s No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. T.D. 5,129 ft.; cmtd. 7-in. at 5,000 ft.; W.O.C.

UTAH

Grand County

Reeder Corp.'s No. 1 State, NE NE NE Sec. 16-22s-19e. Drlg. below 700 ft.

Big Six Oil Co.'s No. 1 Govt., SE¼ Sec. 23-22s-19e. S.D. 525 ft. on top Dak., for repairs.

Cane Creek Oil Co.'s No. 2 Shaffer, NW SW SW Sec. 31-26s-21e. T.D. 3,260 ft. (C.D.); exch. permits for leases and W.O. ice thaw to M.I. supplies; will go to 3,600 ft.

Daggett County

Mountain Fuel Supply Co.'s No. 4 Murphy, SW SE SW Sec. 21-3n-24e. S.D. 5,643 ft. for winter; cmtd. 6⅝-in. on T. Dak. at 5,640 ft.; tstd. 5,000,000 cu. ft. gas from top of sd.

Summit County

Longwell Pet. Co.'s No. 1, SE SW SE Sec. 35-3n-5e. Drlg. 3,256 ft., in sd.; S.O.

SOUTH DAKOTA

Harding County

South Dakota State Roy. Co.'s No. 1 State, SW NW Sec. 35-18-1e. Drlg. 7,845 ft.; S.O.

Butte County

Two Top O. & G. Co.'s No. 2, SE NE Sec. 30-10n-6e. T.D. 1,090 ft.; C.O.

Illinois Fields

(Continued from Page 67)

3,300 ft., running casing, show of oil at 3,173-74 ft.

In Wayne County Randall and others' No. 1 Horton, SE SE SE Section 12-3s-9e, drilling at 3,040 ft.

In Edwards County Kingwood Oil Co.'s No. 1 Frost, SE NE NE Section 8-3s-14w, rigging up rotary. Wilson Drilling Co.'s No. 1 Curtis, C E½ NE SE Section 13-3s-10e, shut down at 1,584 ft. to make repairs.

In Wabash County R. Ryan's No. 1 Seigert, NW NW NW Section 2-3s-14w, drilling at 2,465 ft.

In White County New Penn Development Co.'s No. 1 Williams, SW cor. SE SE NW Section 28-3s-9e, drilling at 2,678 ft.

In Randolph County Ralston and Beattie's No. 1 Foster, C NE SE Section 31-4s-5w, total depth 941 ft., testing on the pump.

In White County Phillips Petroleum Co.'s No. 1 Garr, C W½ NW NW Section 31-4s-11e, drilling McClosky lime at 2,968 ft. Phillips' No. 1 Cleveland, NE SE NE Section 36-4s-10e, drilling at 2,756 ft.

In Randolph County R. T. Pendergast, SW cor. Section 11-5s-5w, fishing at 582 ft. H. C. Goss' No. 1 Schulze, NE SE NW Section 2-7s-6w, drilling at 738 ft.

In Hamilton County Kingwood Oil Co.'s No. 1 Wilson, NW NW SE Section 6-6s-7e, drilling at 2,290 ft.

In Gallatin County F. E. Araldson's No. 1 Logan, NW NW SW Section 16-9s-9e, set casing at 1,832 ft., total depth 1,350 ft.

In Williamson County Blalock and others' No. 1 Smathers, NE SE NE Section 9-9s-2e, total depth 2,562 ft., plugged back to 1,386 ft., bailing salt water with a small showing of oil.

In Massac County Marshall Drilling Co.'s No. 1 McGhee, NE NE NE Section 3-16s-5e, drilling at 2,140 ft.

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Michigan Field Report

By
O. C. PRESSPRICH

13 New Oil Wells Average Low in Initial Production

SAGINAW, Mich., Feb. 5.—New production dropped to a low figure in Michigan oil fields last week as cold weather continued to retard developments. None of the 13 producer completions rated better than ordinary. The Tallmadge extension in Ottawa County and Allegan's Overisel field monopolized the picture with five and four oil completions, respectively.

Meanwhile, a new state proration order, effective Friday, February 2, affecting eight sections of the Overisel field, had the effect of a potential 1,000-bbl. a day reduction from Michigan fields, added to which, labor difficulties arose to plague operators as a strike called by the C.I.O. Industrial Oil Field Workers Union halted rig-building jobs Thursday in Central Michigan fields. Wages and hours were at issue.

Last week there were 20 completions recorded in the state, 13 of which were oil wells, the others, including several wildcat tests, having been abandoned as dry. Two locations were abandoned. The new wells increased the potential production by slightly more than 2,100 bbl. per day.

However, the rate of activity was unaffected as the state Conservation Department granted 22 drilling permits in 10 counties, including 5 in Van Buren, 4 in Ottawa, 3 each in Clare and Allegan, 2 in Isabella, 1 each in Kent, Montcalm, Monroe, Barry and Oceana counties.

The rig builders said their strike was called after contractors refused to meet their demands. As a result operations on about 15 jobs were halted. Operators said, however, that only a deadlock of long duration can seriously affect drilling operations. They pointed out that portable drilling machines have largely replaced derricks, which are being used on only about one of every five wells.

The workmen want a return to the 1937 wage level —$12 a day for foremen, $10 for experienced workers, an 8-hour day and 6-month contracts. The present scale was said to be $10 and $8, according to Chris Raber, president of the union group.

New Proration Order

A new proration order is effective in Sections 27-28-33-34-35 of Overisel Township, and Sections 2-3-4 of Heath Township. There are 15 producing wells in the area, 10 drilling, and production, prior to the 100-bbl. a day order, was between 2,000 and 2,500 bbl. a day. The state Oil Advisory Board recommended the action to avert water seepage and stop decreasing pressure. The board declared its order will increase the ultimate recovery of the field 50 per cent.

The week also brought award by Dow Chemical Co. of Midland of a contract for the construction of 55 miles of welded gas pipe line from the Dow plant to the Temple field in Clare County. The contract was let to Gentry Engineering Co. of Jackson, Mich.

Biggest of the week's new producing wells was Smith Petroleum Co.'s No. 1 Thurkettle in Section 29 of the Walker field. After-acid production was 430 bbl. a day. In Clare's Redding field, Turner Petroleum Co.'s No. 1-F State, in Section 28, was rated at 303 bbl. naturally. New wells in Tallmadge ranged in production from 10 to 360 bbl., the best being Wolverine Natural Gas Co.'s No. 1 Snep in Section 24, although in the same section Muskegon Development Co.'s No. 1 Gail Wright was the only test in the field abandoned as dry. Three of the Allegan wells are in Section 27 of Overisel, there was another producer in Allegan's Salem field and a small well was completed in Bloomingdale Township of Van Buren County.

In the Wise pool of Isabella County, at present the most active Central Michigan field, Cryden Petroleum Co.'s No. 1 Morrison disappointed operators when it went through the Dundee without showing oil and was abandoned as a dry hole. The test is in the southwestern corner of the field, scene of more than a dozen other drilling operations.

Last week's Michigan completions summarized:

Allegan County

Overisel Township (4n-14w)—Four tests were completed as oil wells, and one location was abandoned. Lentz & Miller, Inc.'s No. 2-B John G. Berens, NW SW SE Section 27, was good for 150 bbl. a day after treatment with acid at 1,523 ft. Jacob Bolema's No. 1 John Beetman, SE SE SW Section 27, completed at 1,538 ft., flowed naturally at the rate of 35 bbl. a day. Bolema's No. 2 John Brower estate, SW NW NE Section 34, after acid treatment, rated 225 bbl. a day from a depth of 1,454 ft. Lentz & Miller, Inc.'s No. 2 Beetman, NE SE SW Section 27, completed at 1,598 ft., got after-acid production at the rate of 160 bbl. a day. N. R. Dodd abandoned location for No. 1 John S. Hoffman, SE SE SE Section 16.

Salem Township (4n-13w)—W. R. Borough, Inc.'s No. 1-B John W. Shuck, SE SE NE Section 3, completed at a depth of 1,694 ft., produced 100 bbl. a day, after treatment with acid.

Clare County

Redding Township (19n-6w)—Turner Petroleum Corp.'s No. 1-F State, C S½ NE NW Section 28, total depth 3,877 ft., had initial natural flow at the rate of 303 bbl. a day.

Isabella County

Wise Township (16n-3w)—Cryden Petroleum Corp.'s No. 1 Morrison, NE NW SE Section 29, was abandoned as a dry hole at 3,785 ft.

Kent County

Walker Township (7n-12w)—The only completion in the Walker field was Smith Petroleum Co.'s No. 1 Jane M. Thurkettle, SW SE SW Section 29, drilled to a depth of 1,894 ft., and having initial daily production of 430 bbl. after application of acid.

Monroe County

Summerfield Township (7s-6e)—Brailey Oil Syndicate's No. 1 Ault Brothers, NW SE NW Section 17, was dry and abandoned at 2,250 ft.

Muskegon County

White River Township (12n-18w)—H. C. Nelson's No. 1 Sarah Kittridge, C E½ NE Section 2, failed to show promise and was scheduled to be abandoned with drilling down 2,070 ft.

Newaygo County

Dayton Township (13n-14w)—Arthur Hansen's No. 1 F. Walford estate, SE NW NW Section 32, was abandoned as dry at 2,165 ft.

Ottawa County

Tallmadge Township (7n-13w)—Five of six Tallmadge completions rated below average potential. The sixth was a dry hole. Smith Petroleum Co.'s No. 1 A. Kwiatkowski, SE SW SE Section 27, completed at 1,930 ft., was good for 10 bbl. a day, after acid, while the same company's No. 2 John S. Masterson, SE SE SE Section 23, produced initially at 150 bbl. a day, after acid treatment, from a depth of 1,897 ft. Twin Drilling Co.'s No. 4-B F. D. McKay, SE NW SW Section 24, rated 100 bbl. a day at 1,908 ft., after the hole was acidized, and Twin Drilling Co.'s No. 2 McKay-Ginrich, SW NE NE Section 26, had after-acid initial of 85 bbl. daily from 1,869 ft. Wolverine Natural Gas Corp.'s No. 1 Peter Snip, SE SE SW Section 24, was good for 360 bbl. a day after acid treatment from a depth of 1,904 ft. The dry hole was Muskegon Development Co.'s No. 1 Gail Wright, NW SW NE Section 24, which was abandoned at 2,011 ft.

Zeeland Township (5n-14w)—Freeman Oil Co.'s No. 1 Albert Van Farowe, SW SE NE Section 5, was dry and abandoned at 1,708 ft.

Van Buren County

Bloomingdale Township (1s-14w) — Jetter Drilling Co.'s No. 3 Munn, SW SE SW Section 11, completed and acid-treated at 1,317½ ft., produced 25 bbl. a day.

Porter Township (4s-13w)—Lewis B. Petersen's No. 1 Petersen Paint Farm, NW SW SE Section 14, was abandoned as a dry hole at 1,220 ft.

Eastern Fields

(Continued from Page 87)

at 1,682 ft. in No. 816 Louisa E. Long. The United Fuel Gas Co. is drilling at 1,681 ft. in No. 4863 Mary E. Carney, and rigging up at No. 4864 W. J. Glass and others. Godfrey L. Cabot, Inc., is rigging up No. 4 Putnam Co. Alpha Gas Co. is down 4,950 ft. in No. 2 J. W. Legg, with Corniferous topped at 4,874 ft. The Mullins Gas Co. is down 5,120 ft. in the W. E. Fisher test.

Gas Wells

In Cabell County the Merritts Creek Gas Co. completed a 650,000-cu. ft. gasser on the Foundation Realty Co. land in Barboursville district, at 3,028 ft.

In Gilmer County Norman and Jones completed a 500,000-cu. ft. gas well on the Walter Matthews farm in DeKalb district, at 1,813 ft. It had been plugged back to the Salt sand. In this district L. D. Nutter completed a 212,000-cu. ft. gas well on the L. P. Wolfe farm, at 1,685 ft. It had been plugged back to the Blue Monday sand. In Glenville district Pittsburgh & West Virginia Gas Co. completed No. 7721 Jefferson Davis at 2,174 ft., good for 37,320 cu. ft. of gas at 1,721-24 ft.

In Kanawha County Owens-Libby-Owens Gas Department's No. 560 Siler Coal & Land Co., in Washington district, was completed in Brown shale at 4,339 ft., and gaged 105,000 cu. ft. a day.

In Pleasants County H. F. Simonton and others completed a test on the J. J. Simonton heirs land in Lafayette district, at 1,815 ft., the Maxton sand, and it gaged 500,000 cu. ft. a day.

In Wetzel County the Pittsburg & West Virginia Gas Co. deepened No. 5395 Hibbs in Church district to 3,384 ft. with the Fourth sand at 3,324-63 ft.; gas, 3,340-45 ft.; gas, 3,357-81 ft.; total volume 300,000 cu. ft. a day.

East Texas Fields

(Continued from Page 80)

No. 1 Joe Venters, S. Wright Survey, 3 miles southeast of Leesburg, dry and abandoned at total depth of 7,608 ft.

Franklin County

In the Talco field, Magnolia Petroleum Co.'s No. 14 Maxton, William Evans Survey, 4,274-4,310 ft., 180 bbl., pumping.

Nacogdoches County

A wildcat, Melrose Oil Co.'s No. 1 C. N. Wilson, J. Hall Survey, 10 miles southeast of Nacogdoches, dry and abandoned at total depth of 2,100 ft.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., Feb. 3.—Under the new schedule of allowables which increased the output of Turner Valley crude wells from 12,000 to 18,000 bbl. a day, Anglo-Canadian Oil Co.'s No. 6, Section 17-18-2w5, is increased from 291 to 432 bbl., making it the largest producer. Home Oil Co.'s No. 2 Millarville drops to second, with 414 bbl. Other major producers are: Royalite Oil Co.'s No. 43, 407 bbl.; Royalite's No. 46, 401 bbl.; Royalite's No. 42, 399 bbl.; and Extension Royalties' No. 2, 378 bbl. The schedule lists 96 crude producers, as against 93 in the previous schedule of December 22. In addition to Royalite's No. 46, the new completions are Command Oils' No. 2, with 339 bbl. and Royalite's No. 45, with 290 bbl.

The Turner Valley marketing situation this winter is more favorable to the producers than a year ago, partly due to a drop in crude imports from Montana as a result of the discount on Canadian funds. On February 1, 1939, the Turner Valley aggregate allowable was cut from 12,500 to 10,000 bbl., at which figure it remained until April 1, when it was increased to meet the spring demand.

Turner Valley Completions

In Section 17-18-2w5, in the southwest end of the field, Royalite Oil Co.'s No. 46, LSD 2, finished at 7,994 ft., tested 2,536 bbl. a day on 1-in. choke, and has been given temporary allowable of 401 bbl. It was acidized with 9,000 gal. before official test.

In Section 29-18-2w5 Command Oils' No. 2, LSD 11, finished in the Madison at 8,184 ft., showed 1,375 bbl. a day through 1-in. choke on official test after acidizing. Initial temporary allowable of 256 bbl. was increased to 339 bbl. in the new schedule.

In North Turner Valley Home Oil Co.'s No. 4, LSD 9, Section 28-20-3w5, finished at 8,332 ft., some 487 ft. in the Madison, and showed 312 bbl. in 4 hours natural production under 400 lb. back pressure, flowing by heads. After an acid treatment with 1,500 gal. in the lower lime a 24-hour test gave 847 bbl. from this lower horizon. A further treatment with 2,500 gal. in the same horizon stepped the production up to 905 bbl. in 15 hours. After a further 12-hour test, packer was set for acidizing the upper porous horizon. The gas-oil ratio is lower than on the first tests and every indication is for a very large well.

Tests in the Lime

In Section 33-20-3w5, North Turner Valley, Home Oil Co.'s No. 3, LSD 1, has resumed from 7,775 ft. after a shutdown for frozen water lines. It got the Madison at 7,688 ft. and will be an early completion.

In Section 8-19-2w5, West Central field, South West Petroleum Co.'s No. 3, LSD 3, got the brown sand of the Dalhousie at 6,490 ft. and the Madison lime at 6,720 ft. It is resuming after cementing casing at 6,739 ft.

In Section 5-19-2w5, Vanpeg Royalties' No. 1, LSD 9, is deepening from 6,429 ft., where casing was cemented, after apparently getting the lime at 6,415 ft. This is about 600 ft. higher than in Vulcan-Brown's No. 1, LSD 10, same section.

In Section 31-18-2w5, Anglo-Canadian Oil Co.'s No. 7, LSD 9, is below 8,223 ft. after getting the Madison lime at 7,930 ft. and cementing casing about 8 ft. in.

West Central Field

In Section 7-19-2w5, West Central Turner Valley, Royalite Oil Co.'s No. 48, LSD 10, is below 1,828 ft. Pacific Petroleums' No. 5, LSD 6, is below 650 ft.

In Section 5-19-2w5, Royalite Oil Co.'s No. 51, LSD 13, has cellar finished.

West Side Drilling

In Section 32-18-2w5 Pacific Petroleums' No. 4, LSD 3, is below 1,652 ft. In Section 29-18-2w5, Commoil's No. 3, LSD 13, is below 1,039 ft.

North Turner Valley

In North Turner Valley, in Section 27-20-3w5, Foothills Oil & Gas Co.'s No. 6, LSD 5, is below 1,817 ft.

In Section 34-20-3w5 Alberta Oil Incomes' No. 1, LSD 4, is resuming from 4,399 ft. after delay due to frozen water lines. No. 2, LSD 4, Section 4-21-3w5, is resuming from 2,437 ft.

In the Waite Valley area National Petroleum Corp.'s No. 3, LSD 4, Section 25-20-4w5, is resuming from 6,841 ft. after sidetracking.

Steveville Field

In the Steveville field Standard of British Columbia's No. 1 Princess, LSD 13, Section 22-20-12w4, is in the Devonian lime below 4,925 ft. At this depth, nearly 1,000 ft. in, no porosity is indicated though good shows were encountered in the overlying Madison.

Tests in the Foothills

On the Grease Creek structure, in the foothills west of Olds, Grease Creek-Northwest Co.'s No. 1, LSD 2, Section 13-29-7w5, is in the lower Blairmore formation below 6,968 ft. after mudding off caving formation.

On the Kootenay dome Roxana Petroleums' No. 1, Section 8-24-7w5, is below 6,435 ft., some 3,330 ft. in Devonian limestone.

In the Sheppard Creek area, south of Turner Valley, Alberta Pacific's No. 1, LSD 6, Section 7-16-2w5, is below 4,120 ft. and believed in the Blairmore formation, with the test logging considerably higher than Turner Valley.

In the Willow Creek area Oil Field Development Co.'s No. 1, LSD 7, Section 7-13-2w5, has secured drilling permit and will spud within a few weeks.

Largest Gasser

On the Battleview dome, in East Central Alberta, Franco-Battleview's No. 1, completed about 2 years ago, was given definite gage tests by Russell V. Johnson and T. M. Macdonald, and showed a maximum flow of 76,350,000 ft. a day from around 1,900 ft. The well is the largest gasser in the British Empire, exceeding even Range 1 gasser on the Rogers-Imperial structure in southern Alberta. In the same general area Franco-Vermilion's No. 1 showed a flow of 4,183,000 ft. a day. Franco-Battleview's No. 1 was drilled originally by Battleview Oils, Ltd., which has contracted to sell production to a Franco Oils subsidiary, Northern Natural Gas Co., which is applying for a franchise for the city of Saskatoon.

Lloydminster Field

In the Lloydminster field Shaw Petroleums, in association with Franco Oils, is planning the drilling of 15 additional wells to supply gas to Saskatoon. Locations will be on both the Alberta and Saskatchewan sides of the provincial boundary, on acreage which is fairly well proved by tests already drilled. Charles Withers, drilling contractor, is arranging to put down a series of tests on acreage in the same field recently secured by a Vancouver syndicate. Some joint tests will be drilled by Franco Oils and Vera Oilfields in the Unity Valley area in western Saskatchewan, where both oil and gas indications have been encountered.

Ontario Drilling

In the Brownsville field, Oxford County, Ontario, Central Pipe Line Co.'s No. 3 Annie Berdan farm, Lot 24, Concession 12, Dereham Township, finished around 940 ft. with 2,500,000 ft. a day. Sam McKechnie is landing drive pipe for No. 4 in the southwest corner of the same lot. W. C. Patterson & Co.'s No. 1, Wallace farm, Lot 3, Concession 10, Bayham Township, is finishing.

In the Malahide field, Elgin County, Union Gas Co.'s No. 38, Lot 28, Concession 5, Malahide Township, finished a small gasser at 1,080 ft. Union's No. 39, Lot 15, Concession 5, is below 700 ft.

In the DeClute field, Kent County, a test drilled by George Rawlings, of Chatham, on the Alice Pardo farm, south of the Talbot Road in Raleigh Township, finished a dry hole below 1,500 ft.

In Colchester Township, Essex County, Eugene Coste & Co. have started a test on Lot 89, North Talbot Road, about 600 ft. north of the road. Location is some distance west of the old Essex gas field.

Turner Valley Testing

In the Turner Valley field, Alberta, the Alberta Conservation Board is making another series of flow tests through 1-in. choke, covering all crude producers. Potential of the field, with 96 crude producers, was previously estimated, unofficially, slightly in excess of 70,000 bbl. a day.

McMurray Operations

Abasand Oils, operating on a tar-sand concession near McMurray, in northern Alberta, has contracted to supply fuel oil for the Consolidated Mining & Smelting Co. operations in the Northwest Territories. A high-grade diesel fuel is now being produced following installation last fall of new machinery in the Abasand separation and refining plant. Fuel-oil deliveries to Consolidated will commence early in the coming summer and will involve a thorough test of the tar-sand product under industrial conditions. A small-scale test of the diesel fuel at Edmonton last fall showed satisfactory results.

Fort Norman Field

Enlargement of the Imperial Oil refinery at Fort Norman and the projected drilling of an additional well to supply northern gasoline and fuel-oil requirements calls attention to the most northerly oil field in the world, opened more than 20 years ago, but commercially utilized only for the past few years. The Fort Norman field is on the west bank of the Mackenzie River, about 1,000 miles north of Waterways, the end of the railroad, and approached from the south by a devious water route from the Athabaska River to the Mackenzie. The chief market for the output is the Eldorado mine, on Great Bear Lake, approximately 350 miles east, and the Yellowknife mining area, approximately 700 miles south and west. Petroleum products for Eldorado mine are conveyed down the Mackenzie to the mouth of the Bear River, thence 80 miles upriver, then by an 8-mile pipe line across the portage to Great Bear Lake, and by barges 225 miles across the lake.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Dec. 31, 1939	Nov. 30, 1939	December changes	Dec. 31, 1938 (reclassified)
1. Gasoline-bearing crude	35,136,501	35,011,252	+125,249	36,225,312
2. Nongasoline-bearing crude	13,303,091	13,654,537	—351,446	16,282,177
3. Unblended natural gasoline	1,516,033	1,652,947	—136,914	2,699,455
4. Gasoline (not including distributing and service stations)	16,128,052	15,011,338	+1,116,714	13,259,369
5. Naphtha distillates	*1,282,484	*1,283,727	—1,243	*1,566,349
6. Gas oil and diesel oil	9,671,299	9,880,120	—208,821	10,539,937
7. Fuel-oil residuum	66,886,434	67,437,999	—551,565	70,957,881
8. All other stocks	†8,011,354	7,944,532	+66,822	†6,153,809
Total	151,935,248	151,876,452	+58,796	157,684,289
*Estimated amount of unfinished gasoline contained in Item 5	1,032,536	1,054,145	.....	1,350,379
†Coke included in Item 8	976,545	859,288	.....	92,066

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California Oil-Field Operations For December, 1939

According to figures collected by the American Petroleum Institute, the total production of crude oil in California for December amounted to 18,996,615 bbl., an average of 612,794 bbl. per day. This is an increase of 52 bbl. per day over November production.

Total stocks of crude and all products in Pacific Coast territory increased during the month 58,796 bbl. The total stocks at the end of the month were 151,935,248 bbl. The total stock decrease for 1939 was 5,749,041 bbl.

Ninety-nine wells were completed during the month with an initial daily production of 93,489 bbl., compared with 85 wells completed during November, with an initial production of 73,043 bbl.

CRUDE-PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gal.)

Group No. 1:	Total production December	Daily average Dec. 1939	Daily average Nov. 1939	Daily average Dec. 1938
Arvin	74,044	2,389	2,543	..
Belridge—North	365,336	11,785	11,819	12,968
Belridge—South	35,404	1,142	1,140	1,185
Canal	183,591	5,922	5,614	3,893
Canfield Ranch	2,101	68	75	41
Coalinga	657,634	21,214	19,386	9,558
Cole's Levee	57,487	1,854	1,789	179
Edison	68,690	2,216	2,309	2,521
Elk Hills	377,133	12,166	11,351	10,143
Fruitvale	190,340	6,140	6,072	7,376
Greeley	89,220	2,878	2,786	2,208
Kern River	357,358	11,527	11,695	11,319
Kettleman Middle Dome	..	..	..	39
Kettleman North Dome	1,620,892	52,287	51,056	59,867
Lost Hills	104,203	3,361	3,420	3,207
McKittrick	110,076	3,551	3,573	3,479
Midway-Sunset	1,573,853	50,769	49,472	56,769
Mountain View	225,571	7,277	7,359	9,238
Mount Poso	333,391	10,755	10,491	13,808
Paloma	5,386	174	191	..
Rio Bravo	247,206	7,974	7,918	8,605
Round Mountain	249,096	8,035	8,350	12,795
Strand	35,936	1,159	1,067	..
Ten Section	258,157	8,328	8,797	8,719
Tupman	31,891	1,029	699	..
Wasco	34,564	1,115	1,271	633
Wheeler Ridge	10,212	329	330	307
Group No. 2:				
Capitan	64,543	2,082	2,159	2,812
Elwood	125,198	4,039	3,970	4,810
Rincon	124,603	4,019	3,738	3,835
San Miguelito	90,829	2,930	2,876	2,489
Santa Barbara	8,311	268	342	420
Santa Maria	458,729	14,798	16,223	15,615
Summerland	825	27	34	24
Ventura Avenue	1,128,945	36,418	36,456	33,908
Ventura-Newhall	210,467	6,789	7,071	5,237
Watsonville	930	30	30	30
Group No. 3:				
Brea-Olinda	171,736	5,540	5,697	5,626
Coyote—East	89,896	2,900	2,912	2,758
Coyote—West	193,180	6,232	7,737	8,151
Dominguez	585,922	18,901	18,811	24,421
El Segundo	86,239	2,782	2,892	5,009
Huntington Beach	865,559	27,921	27,156	30,659
Inglewood	405,081	13,067	13,085	12,916
Lawndale	1,418	46	47	73
Long Beach	1,374,352	44,334	44,361	51,948
Los Angeles-Salt Lake	16,129	520	550	482
Montebello	839,885	27,093	27,411	16,370
Playa Del Rey	139,325	4,494	4,515	5,558
Potrero	40,351	1,301	1,379	1,012
Richfield	267,822	8,639	8,506	8,208
Rosecrans	310,120	10,004	10,490	14,847
Santa Fe Springs	807,203	26,039	26,581	30,141
Seal Beach	215,916	6,965	7,009	7,822
Torrance	408,120	13,165	13,837	19,221
Whittier	31,179	1,006	931	900
Wilmington	2,635,030	85,001	85,383	92,144
Total December	18,996,615	612,794	612,742	646,283
Total November	18,382,277	612,742	..	..
Increase	614,338	52	..	..

OIL-FIELD DEVELOPMENT

Group No. 1:	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abd. wells—Drillers	Abd. wells—Producers
Arvin	..	1	2	1,453	13	..	..
Belridge—North	..	2	..	..	76	..	..
Belridge—South	..	..	..	..	83	..	..
Canal	2	2	1	2,391	32	..	..
Canfield Ranch	..	..	..	..	1	..	..
Coalinga	8	13	10	26,263	871	2	2
Cole's Levee	1	8	3	2,065	12	..	..
Edison	3	1	1	130	92	..	..
Elk Hills	..	..	1	..	192	..	1
Fruitvale	1	..	..	..	174	1	..
Greeley	3	4	4	9,132	26	..	..
Kern River	3	4	5	101	1,571	2	..
Kettleman Middle Dome	..	..	..	..	..	..	..
Kettleman North Dome	8	16	6	7,053	243	..	1
Lost Hills	..	..	..	..	290	1	..
McKittrick	..	1	..	..	200	1	..
Midway-Sunset	4	5	3	495	2,572	1	1
Mountain View	..	1	..	..	186	..	..
Mount Poso	..	..	..	..	272	..	..
Paloma	..	2	..	..	1	..	..
Rio Bravo	2	3	1	3,280	38	..	..
Round Mountain	1	..	1	325	206	..	..
Strand	2	2	1	2,090	6	..	..
Ten Section	1	2	2	5,154	31	..	..
Tupman	3	3	1	1,725	5	..	..
Wasco	1	3	..	..	7	..	..
Wheeler Ridge	..	..	..	..	33	..	..
Group No. 2:							
Capitan	..	..	..	..	45	..	..
Elwood	..	..	..	..	81	..	..
Rincon	1	2	..	..	54	..	..
San Miguelito	..	2	..	..	21	..	..
Santa Barbara	..	..	..	..	27	..	..
Santa Maria	4	3	1	5,000	270	..	..
Summerland	..	..	..	..	17	..	..
Ventura Avenue	4	10	7	9,703	275	..	..
Ventura-Newhall	1	8	2	27	552	..	..
Watsonville	..	..	..	..	7	..	..
Group No. 3:							
Brea-Olinda	..	..	..	..	356	..	..
Coyote—East	1	2	..	..	78	..	..
Coyote—West	..	..	..	..	60	..	..
Dominguez	3	2	3	2,334	170	..	..
El Segundo	..	..	..	..	47	..	..
Huntington Beach	2	3	1	509	529	..	3
Inglewood	..	..	..	..	208	..	..
Lawndale	..	..	..	..	5	..	..
Long Beach	1	2	5	700	1,210	..	1
Los Angeles-Salt Lake	..	..	..	..	111	..	..
Montebello	11	22	19	7,501	340	..	..
Playa Del Rey	..	..	..	..	160	..	1
Potrero	..	2	..	..	16	..	..
Richfield	1	2	..	..	304	..	..
Rosecrans	5	7	1	160	138	..	..
Santa Fe Springs	..	..	..	..	565	..	..
Seal Beach	2	2	1	156	118	..	..
Torrance	..	1	1	150	699	..	6
Whittier	1	1	..	..	144	..	..
Wilmington	14	13	16	5,692	759	..	..
Miscellaneous drilling	9	27	..	..	..	14	..
Group 4—gas fields:							
Buena Vista Lake	..	..	..	..	4	..	..
Buttonwillow	..	..	..	..	20	..	..
Chowchilla	..	..	..	..	..	..	..
Delano	1	2	1	Gas	9	..	..
Dudley Ridge	..	..	..	..	..	..	..
Fairfield Knolls	..	..	..	..	..	..	..
Goleta	..	..	..	..	..	1	..
Marysville Buttes	..	1	..	..	3	..	..
McDonald Island	..	..	..	..	5	..	..
Rio Vista	..	..	..	..	22	..	..
Semi-Tropic	..	..	..	..	2	..	..
Tracy	..	..	..	..	5	..	..
Total December	104	187	99	93,489	14,668	23	16
Total November	85	206	85	73,043	14,510	16	23
Increase (*decrease)	19	*19	14	20,446	158	7	*7
Average for 1939	91	191	72	64,552	14,188	21	23
Average for 1938	96	207	83	76,738	13,621	22	21

Review of the Year 1939

Supplementing the regular monthly report, the following yearly figures are presented:

Crude-oil production for 1939 totaled 224,354,048 bbl., a decrease of 25,395,198 bbl. under 1938 production. The daily average for the year was 614,669 bbl., compared with 684,244 for the previous year, a decrease of 69,575 bbl. per day. Five hundred twenty-five wells were abandoned during the year. Of these, 268 were abandoned oil producers and 6 were gas wells; 246 were abandoned while drilling for oil and 5 while drilling for gas.

Below is shown the total production for the year and the daily average, also the oil-well completions and initial daily output for the year, for each oil field in the state:

Group 1:	Total 1939 production	Daily average	Wells completed	Daily initial output
Arvin	445,676	1,221	14	23,777
Belridge—North	4,361,453	11,949	14	7,959
Belridge—South	419,764	1,150	..	..
Canal	1,854,658	5,081	16	25,385
Canfield Ranch	21,633	59	..	..
Coalinga	5,730,573	15,700	58	137,204
Cole's Levee	336,018	920	13	10,397
Edison	837,884	2,296	5	365
Elk Hills	3,829,940	10,493	2	197
Fruitvale	2,376,587	6,511	9	1,140
Greeley	811,206	2,222	11	35,776
Kern River	4,132,754	11,323	30	301
Kettleman Middle Dome	8,829	24	..	..
Kettleman North Dome	19,559,177	53,587	40	83,824
Lost Hills	1,222,238	3,349	1	69
McKittrick	1,325,929	3,633	4	229
Midway-Sunset	18,960,497	51,947	18	1,673
Mountain View	2,983,263	8,173	2	220
Mount Poso	4,314,314	11,820	12	3,081
Paloma	23,207	64	1	2,246
Rio Bravo	2,875,405	7,878	14	31,250
Round Mountain	3,527,715	9,665	12	2,051
Strand	134,508	369	6	15,737
Ten Section	3,246,815	8,895	11	29,978
Tupman	190,401	522	4	5,065
	402,238	1,102	4	19,047
Wheeler Ridge	124,520	341	1	104
Group 2:				
Capitan	876,022	2,400	..	..
Elwood	1,545,512	4,234	..	..
Rincon	1,237,717	3,391	6	1,969
San Miguelito	952,079	2,609	4	4,574
Santa Barbara	111,084	304	3	244
Santa Maria	6,304,734	17,273	16	34,066
Summerland	10,286	28	..	..
Ventura Avenue	12,935,150	35,439	36	51,652
Ventura-Newhall	2,317,018	6,348	17	8,479
Watsonville	10,950	30	..	..
Group 3:				
Brea-Olinda	2,062,951	5,652	2	235
Coyote—East	941,883	2,580	3	989
Coyote—West	3,070,941	8,413	3	1,609
Dominguez	7,130,594	19,536	16	13,701
El Segundo	1,168,183	3,201	..	..
Huntington Beach	9,983,160	27,351	23	7,495
Inglewood	4,605,242	12,617	..	..
Lawndale	19,175	53	..	..
Long Beach	17,003,310	46,584	9	1,174
Los Angeles-Salt Lake	189,804	520	..	..
Montebello	7,454,768	20,424	128	86,937
Playa Del Rey	1,800,533	4,933	1	90
Potrero	409,897	1,123	3	776
Richfield	3,134,283	8,587	2	75
Rosecrans	4,459,363	12,218	31	10,690
Santa Fe Springs	10,050,530	27,536	1	394
Seal Beach	2,640,534	7,234	2	309
Torrance	6,417,738	17,583	70	25,667
Whittier	353,011	967	..	..
Wilmington	31,100,394	85,207	174	86,429
Group 4—gas fields:				
Buena Vista Lake	..	..	..	..
Buttonwillow	..	..	..	..
Chowchilla	..	..	..	..
Delano	..	..	10	Gas
Dudley Ridge	..	..	..	..
Fairfield Knolls	..	..	1	Gas
Goleta	..	..	..	..
Marysville Buttes	..	..	1	Gas
McDonald Island	..	..	..	..
Rio Vista	..	..	1	Gas
Semi-Tropic	..	..	..	..
Tracy	..	..	..	..
Total	224,354,048	614,669	865	774,629

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S. T. R.	Depth	Status—
Union Oil, No. 1 Russell, Santa Maria, Santa Barbara	20-10-34	4,861	sd. sh. drlg.
Union Oil, No. 2-4 O'Donnell, Santa Maria, S. Barbara	29-10-34	4,995	sd. sh. drlg.
Colo, F. E., No. 3 Paderewski, Santa Maria, San. Barb.	29-10-34	5,615	sd. sh. drlg.
Hamilton, W. C., No. 1 Hollister, Goleta, Sant. Barb.	3- 4-29	998	sd. sh. drlg.
T. O. Oil, No. 5 Mdivani, Mesa, Santa Barbara	28- 4-27	863	sd. sh. drlg.
Oil Group, No. 1 Hyland, Summerland, Sant. Barb.	16- 4-26	1,315	will deepen
Coronet Oil, No. 4 Crown, Ojai, Ventura	17- 4-21	1,165	P.B. 1,150
Savage Oil, No. 8 Calumet, Shiells Canyon, Ventura	3- 3-19	3,969	O.S. drlg.
Levesque, G. M., No. 1 Robertson, Simi, Ventura	17- 2-18	2,005	will deepen
G. E. Dev., No. 7 General, Hopper Canyon, Ventura	13- 4-19	231	idle
Continental Oil, No. 13 Grubb, San Miguelito, Ventura	24- 3-24	6,320	redrlg. 5,750
C. C. M. Oil, No. 10-B Hobson, Rincon, Ventura	8- 3-24	4,521	pump 50 b.d.
C. C. M. Oil, No. 26-B Hobson, Rincon, Ventura	16- 3-24	4,845	flow 175 b.d.
C. C. M. Oil, No. 8-A Hobson, Rincon, Ventura	15- 3-24	6,450	gun perf.
Tide Water A. O., No. 43 V.L.W., Ventura Av., Vent.	23- 3-23	7,760	sd. sh. drlg.
Tide Water A. O., No. 45 V.L.W., Ventura Av., Vent.	24- 3-23	5,998	sd. sh. drlg.
Tide Water A. O., No. 16 McGonigle, Vent. Av., Vent.	23- 3-23	10,100	flow 1,180 b.d.
Tide Water A. O., No. 120 Lloyd, Ventura Av., Vent.	27- 3-23	9,030	sd. sh. drlg.
Tide Water A. O., No. 122 Lloyd, Ventura Av., Vent.	23- 3-23	7,965	sd. sh. drlg.
Tide Water A. O., No. 21 Hartman, Ventura Av., Vent.	22- 3-23	8,880	hd. sh. drlg.
Shell Oil, No. 111 Taylor, Ventura Ave., Ventura	29- 3-23	6,943	O.S. drlg.
Shell Oil, No. 112 Taylor, Ventura Ave., Ventura	29- 3-23	5,466	sd. sh. drlg.
Shell Oil, No. 35 Edison, Ventura Ave., Ventura	21- 3-23	8,430	O.S. drlg.
Cal. Alliance Pet., No. 2 Hartman, Vent. Av., Vent.	22- 3-23	6,492	sd. sh. drlg.
Lloyd Corp., No. 4 Dabney, Ventura Ave., Ventura	23- 3-23	10,144	redrlg. 10,135
Belridge Oil, No. 26-1, North Belridge, Kern	1-28-20	8,500	flow 450 b.d.
Belridge Oil, No. 22-1, North Belridge, Kern	1-28-20	8,060	sd. sh. drlg.
Belridge Oil, No. 53-26, North Belridge, Kern	28-27-20	8,410	will redrl.
Tide Water A. O., No. 8-A, Elliott, Lost Hills, Kern	11-26-20	1,475	pump 5 b.d.
Texas Co., No. 2 Beer, Devils Den, Lost Hills, Kern	8-26-19	1,201	sd. sh. drlg.
Cal-Western Oil, No. 12 Coffee, Round Mountain, Kern	12-28-28	1,909	O.S. drlg.
Kern Valley Drlg., No. 1 Kern, Round Mountain, K.	4-29-29	2,415	deepening
Davis Pet., No. 1 Kernco, Kern Front, Kern	13-28-27	1,701	gr. sd. drlg.
Dick & Dore Oil, No. 7 Kern, Kern River, Kern	34-28-28	625	bailing
Dick & Dore Oil, No. 16 Kern, Kern River, Kern	34-28-28	526	O.S. drlg.
Helm & Smith, No. 18 Kern, Kern River, Kern	34-28-28	360	sd. sh. drlg.
El Tejon O. & R., No. 2 Douglas, Edison, Kern	32-29-29	2,570	sd. sh. drlg.
Goodrum & Vincent, No. 3 S.P., Edison, Kern	31-29-30	414	sd. sh. drlg.
O'Reily, Frances, No. 2 Seale, Edison, Kern	5-30-29	4,070	idle
Whiston, H. L., No. 1 Wasem, Edison, Kern	32-29-29	3,860	sd. sh. drlg.
Universal Consd. Oil, No. 2 Cattani, Arvin, Kern	15-31-29	6,149	O.S. drlg.
Western Gulf Oil, No. 45-B, KCL, Fruitvale, Kern	22-29-27	1,994	sd. sh. drlg.
Union Oil, No. 4-23 Bowerbank, Goose Lake, Kern	25-29-24	12,144	P.B. 11,770
Continental Oil, No. 5-8-A, KCL, Wasco, Kern	8-27-24	11,570	sd. sh. drlg.
Continental Oil, No. 1 Meyer, Wasco, Kern	7-27-24	9,570	sd. sh. drlg.
Continental Oil, No. 1 Community, Shafter, Kern	12-28-24	6,191	sd. sh. drlg.
Union Oil, No. 21-34, KCL, Rio Bravo, Kern	34-28-25	11,190	cleaning out
Union Oil, No. 52-34, KCL, Rio Bravo, Kern	34-28-25	11,511	flow 550 b.d.
Superior Oil, No. 1 Rudnick, Rio Bravo, Kern	28-28-25	6,770	sd. sh. drlg.
Superior Oil, No. 1 Roe, Rio Bravo, Kern	27-28-25	8,992	sd. sh. drlg.
Standard Oil, No. 11-23, KCL, Greeley, Kern	18-29-26	8,191	sd. sh. drlg.
Standard Oil, No. 12-7, KCL, Greeley, Kern	7-29-26	9,480	sd. sh. drlg.
Standard Oil, No. 12-8, KCL, Greeley, Kern	7-29-26	6,942	will redrl.
General Pet., No. 1 Farrand, Greeley, Kern	12-29-25	10,650	sd. sh. drlg.
Superior Oil, No. 1 Scofield, Greeley, Kern	12-29-25	9,970	sd. sh. drlg.
Shell Oil, No. 83-29-A, KCL, Ten Section, Kern	29-30-26	6,560	sd. sh. drlg.
Shell Oil, No. 8-21-B, KCL, Ten Section, Kern	21-30-26	3,161	sd. sh. drlg.
Shell Oil, No. 74-25-A, KCL, Ten Section, Kern	25-30-25	8,200	flow 2,810 b.d.
Tide Water-Continental, No. 26-7-E, KCL, Strand, Krn.	7-30-26	3,994	sd. sh. drlg.
Shell-Ohio, No. 64-12-A, KCL, Strand, Kern	12-30-25	8,734	cleaning out
Ohio Oil, No. 17-E, KCL, Canal, Kern	13-30-25	8,322	O.S. drlg.
Shell Oil, No. 21-13-A, KCL, Canal, Kern	13-30-25	8,640	recmtd. 8,545
Richfield Oil, No. 72-33-B, KCL, Tupman, Kern	33-30-25	8,680	sd. sh. drlg.
Richfield Oil, No. 58-29-A, KCL, Tupman, Kern	29-30-25	9,042	P.B. 8,900
Richfield Oil, No. 76-29-A, KCL, Tupman, Kern	29-30-25	8,670	sd. sh. drlg.
Richfield Oil, No. 12-3-C, KCL, Cole's Levee, Kern	3-31-25	5,992	sd. sh. drlg.
Shell Oil, No. 81-17-B, KCL, Cole's Levee, Kern	17-31-25	8,990	sd. sh. drlg.
Standard Oil, No. 20-2, KCL, Cole's Levee, Kern	9-31-25	9,324	cleaning out
Standard Oil, No. 20-3, KCL, Cole's Levee, Kern	9-31-25	9,934	salt water
Ohio Oil, No. 6-F, KCL, Cole's Levee, Kern	11-31-25	9,895	hd. sh. drlg.
Ohio Oil, No. 7-F, KCL, Cole's Levee, Kern	3-31-25	9,090	sd. sh. drlg.
Tide Water A. O., No. 65, KCL, Cole's Levee, Kern	13-31-25	10,420	hd. sh. drlg.
Tide Water A. O., No. 72, KCL, Cole's Levee, Kern	14-31-25	4,880	sd. sh. drlg.
Union Oil, No. 54-11, KCL, Cole's Levee, Kern	11-31-25	10,192	P.B. 9,825
Richfield Oil, No. 1 Slough, South Ten Section, Kern	6-31-26	9,805	sd. sh. drlg.
Standard Oil, No. 6-33-D fee, Midway-Sunset, Kern	33-32-23	1,699	sd. sh. drlg.
Merritt-Annex Oil, No. 1-34, M.A., Midway-Sunset, Kn.	34-32-24	2,625	will P.B.
General Pet., No. 1 B.V.A., Midway-Sunset, Kern	1-32-24	10,890	hd. sh. drlg.
Signal Oil & Gas, No. 7 Kendon, Midway-Sunset, Kern	35-32-23	1,096	sd. sh. drlg.
Shell Oil, No. 45-9 B.V.A., Midway-Sunset, Kern	9-32-25	9,890	redrlg. 9,880
National Oil, No. 35 Sunset, Midway-Sunset, Kern	35-32-32	1,198	O.S. drlg.
Texas Co., No. 37 Midway, Midway-Sunset, Kern	32-32-24	3,209	cleaning out
Ohio Oil, No. 43-3-B, KCL, Paloma, Kern	3-32-26	9,560	sd. sh. drlg.
Western Gulf-Texas, No. 74-3-A, KCL, Paloma, Kern	3-32-26	10,422	cleaning out
Richfield Oil, No. 81-36 B.V.A., Buena Vista L., Kern	36-31-25	5,560	gas well
Shell Oil, No. 52-2-13-A, KCL, San Emidio, Kern	13-11-22	13,290	hd. sh. drlg.
Cal.-Stan. Oil, No. 1 Weber, McKittrick, Kern	34-30-22	1,220	P.B. 1,042
Burrhus, V. E., No. 1 Haberkern, Elkhorn, Kern	21-32-22	1,835	idle
Jergins Trust, No. 1 Cheney, Panoche Creek, Fresno	29-14-13	5,980	sd. sh. drlg.
Texas Co., No. 1 S.P., Turk Anticline, Fresno	23-17-15	6,540	sd. sh. drlg.
Standard Oil, No. 51-19-B fee, NE Coalinga, Fresno	19-19-16	8,150	O.S. drlg.
Standard Oil, No. 62-19-B fee, NE Coalinga, Fresno	19-19-16	7,995	hd. sd. drlg.
Standard Oil, No. 71-19-B fee, NE Coalinga, Fresno	19-19-16	4,995	sd. sh. drlg.
Union Oil, No. 68-18 Cook, NE Coalinga, Fresno	18-19-16	3,686	sd. sh. drlg.
Union Oil, No. 88-18 Cook, NE Coalinga, Fresno	18-19-16	7,570	sd. sh. drlg.
Amerada Pet., No. 22-20 Ewing, NE Coalinga, Fresno	20-19-16	8,182	completing
Bandini Pet., No. 36-18-B, NE Coalinga, Fresno	18-19-16	8,595	hd. sd. drlg.
Superior Oil, No. 3 Husong, NE Coalinga, Fresno	18-19-16	5,991	sd. sh. drlg.
Bandini Pet., No. 51-30-B, Central Coalinga, Fresno	30-19-16	8,050	hd. sd. drlg.
Lytle, R. S., Agt., No. 5-7-F, SE Coalinga, Fresno	7-20-16	6,591	sd. sh. drlg.
Lytle, R. S., Agt., No. 24-7-F, SE Coalinga, Fresno	7-20-16	6,585	sd. sh. drlg.
Lytle, R. S., Agt., No. 37-18-F, SE Coalinga, Fresno	18-20-16	7,824	completing
Univ. Consd. Oil, No. 61-24-C, SE Coalinga, Fresno	24-20-15	4,070	sd. sh. drlg.
Texas Co., No. 2 Anderson, SE Coalinga, Fresno	6-20-16	4,969	sd. sh. drlg.
Standard Oil, No. 66-13-C fee, SE Coalinga, Fresno	13-20-15	7,710	flow 2,575 b.d.
Standard Oil, No. 77-13-C fee, SE Coalinga, Fresno	13-20-15	5,593	sd. sh. drlg.
Standard Oil, No. 42-19-F fee, SE Coalinga, Fresno	19-20-16	7,280	sd. sh. drlg.
Superior Oil, No. 4 Cagle, SE Coalinga, Fresno	6-20-16	6,992	sd. sh. drlg.
K. N. D. A., No. 27-18-J, Kettleman N. Dome, Fresno	18,21-17	9,570	hd. sd. drlg.
K. N. D. A., No. 334-18-J, Kettleman N. Dome, Fresno	18-21-17	8,550	hd. sd. drlg.
K. N. D. A., No. 25-16-Q, Kettleman N. Dome, Kings	16-22-18	7,140	sd. sh. drlg.
K. N. D. A., No. 6-26-Q, Kettleman N. Dome, Kings	26-22-18	5,223	sd. sh. drlg.
K. N. D. A., No. 36-26-Q, Kettleman N. Dome, Kings	26-22-18	8,496	completing
K. N. D. A., No. 38-26-Q, Kettleman N. Dome, Kings	26-22-18	6,756	sd. sh. drlg.
Standard Oil, No. 27-19-J, Kettleman N. Dome, Fresno	19-21-17	10,960	sd. sh. drlg.
Standard Oil, No. 72-19-J, Kettleman N. Dome, Fresno	19-21-17	10,903	fish D.P.
Standard Oil, No. 57-3-P, Kettleman N. Dome, Kings	3-22-17	5,990	sd. sh. drlg.
Standard Oil, No. 61-17-Q, Kettleman N. Dome, Kings	17-22-18	8,450	O.S. drlg.
Standard Oil, No. 72-17-Q, Kettleman N. Dome, Kings	17-22-18	7,572	sd. sh. drlg.
Standard Oil, No. 74-21-Q, Kettleman N. Dome, Kings	21-22-18	8,080	flow 1,900 b.d.
Standard Oil, No. 41-27-Q, Kettleman N. Dome, Kings	27-22-18	2,992	sd. sh. drlg.
Standard Oil, No. 63-27-Q, Kettleman N. Dome, Kings	27-22-18	2,974	sd. sh. drlg.
Standard Oil, No. 72-27-Q, Kettleman N. Dome, Kings	27-22-18	5,150	sd. sh. drlg.
Standard Oil, No. 83-27-Q, Kettleman N. Dome, Kings	27-22-18	6,582	br. sh. drlg.
Standard Oil, No. 85-27-Q, Kettleman N. Dome, Kings	27-22-18	2,216	sd. sh. drlg.
Standard Oil, No. 63-35-Q, Kettleman N. Dome, Kings	35-22-18	7,801	sd. sh. drlg.
Bristol Oil, No. 1 Ohio-Smith, Kettleman S. Dome, Kgs.	35-24-19	8,054	pipe bad
Shell Oil, No. 1 Cohn, Tulare Lake, Kings	4-22-18	8,460	sd. sh. drlg.
Priest Valley Pet., No. 1 Greve, Priest Val., Monterey	22-20-12	2,060	hd. sd. drlg.
Buttes Oilfields, No. 6 Buttes, Marysville, Sutter	1-15- 1	7,070	will P.B.
Texas Co., No. 1 Holmes, Eureka, Humboldt	22- 3- 1	3,815	cmtd. 3,780
Richfield Oil, No. 2 Hill, Potrero, Solano	5- 4- 1	1,355	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S. T. R.	Depth	Status—
Union Oil, No. 13 Carson, Dominguez, Los Angeles	33- 3-13	7,784	cleaning out
Shell Oil, No. 100 Reyes, Dominguez, Los Angeles	33- 3-13	7,820	P.B. 7,391

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.P., drill pipe.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrkd. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Havenstrite, R. E., No. 2 Larronde, Dominguez, L. A.	32-	3-13	130	sd. sh. drlg.
Morton & Elder, No. 2 Dominguez, Dominguez, L. A.	32-	3-13	7,210	sd. sh. drlg.
Pongratz Pet., No. 1 Grant, Dominguez, Los Angeles	32-	3-13	2,618	sd. sh. drlg.
Barnsdall Oil, No. 1 Santa Fe, Rosecrans, Los Angeles	20-	3-13	8,792	flow 30 b.d.
Averill, George, No. 3 South, Rosecrans, Los Angeles	20-	3-13	8,215	flow 70 b.d.
Apex Pet., No. 1 Hatfield, Rosecrans, Los Angeles	20-	3-13	7,930	sd. sh. drlg.
South. Calif. Pet., No. 1 Rowena, Rosecrans, Los A.	19-	3-13	7,360	tested wet
Union Oil, No. 36 Rosecrans, Rosecrans, Los Angeles	19-	3-13	7,700	flow 130 b.d.
Union Oil, No. 37 Rosecrans, Rosecrans, Los Angeles	19-	3-13	7,700	cmtd. 7,397
Royalty Service, No. 1 Cement, Rosecrans, Los A.	19-	3-13	7,250	sd. sh. drlg.
El Rey Oil, No. 1 Westmore, Athens, Los Angeles	2-	3-14	1,998	sd. sh. drlg.
Dominguez Estates, No. 1 fee, Torrance, Los Angeles	2-	4-14	2,996	sd. sh. drlg.
Casa Grande Oil, No. 1 Lopez, San Fernando, L. A.	1-	2-15	2,320	idle
Tide Water A. O., No. 3 Porter, Aliso Canyon, L. A.	27-	3-16	6,590	O.S. drlg.
Tide Water A. O., No. 12 Porter, Aliso Canyon, L. A.	27-	3-16	7,696	redrlg. 7,340
Continental Oil, No. 1 Howell, Aliso Canyon, L. A.	2-	2-16	606	sd. sh. drlg.
Tamas Oil, No. 1 Perkins, Newhall, Los Angeles	14-	3-16	3,900	cleaning out
Consolidated Pet., No. 4 Needham, Newhall, Los A.	13-	3-16	4,300	reaming
Barnsdall Oil, No. 1 R.S.F., Newhall, Los Angeles	27-	4-17	7,012	O.S. drlg.
General Pet., No. 8 Blinn, Wilmington, Los Angeles	35-	4-13	3,025	sd. sh. drlg.
Ace Oil, No. 1 Harbor, Wilmington, Los Angeles	35-	4-13	3,330	sd. sh. drlg.
Bond Pet., No. 1 Star, Wilmington, Los Angeles	35-	4-13	3,337	flow 110 b.d.
Continental Corp., No. 2 L.A.C.F.C., Wilmington, L. A.	2-	5-13	2,191	sd. sh. drlg.
Hancock Oil, No. 20-B Harbor, Wilmington, Los Ang.	35-	4-13	4,070	flow 501 b.d.
Long Beach Dev., No. 4-Z Harbor, Wilmington, L. A.	2-	5-13	3,115	sd. sh. drlg.
Long Beach Dev., No. 5-Z Harbor, Wilmington, L. A.	2-	5-13	4,057	O.S. drlg.
Union Pacific R. R., No. 121, Wilmington, Los Angeles	3-	5-13	3,823	flow 1,350 b.d.
Union Pacific R. R., No. 127, Wilmington, Los Angeles	3-	5-13	3,391	sd. sh. drlg.
Union Pacific R. R., No. 128, Wilmington, Los Angeles	3-	5-13	2,550	sd. sh. drlg.
Union Pacific R. R., No. 129, Wilmington, Los Angeles	4-	5-13	2,990	sd. sh. drlg.
Union Pacific R. R., No. 130, Wilmington, Los Angeles	3-	5-13	2,985	sd. sh. drlg.
Union Pacific R. R., No. 7-C, Wilmington, Los Angeles	33-	4-13	4,770	sd. sh. drlg.
Wilton Oil, No. 55-10-S, Wilmington, Los Angeles	35-	4-13	2,490	sd. sh. drlg.
West Whittier Oil, No. 1 Pellissier, Whittier, L. A.	17-	2-11	4,280	sd. sh. drlg.
Kern Oil, No. 38 Monterey, Montebello, Los Angeles	2-	2-12	3,860	sd. sh. drlg.
Union Oil, No. 9 Howard & Smith, Montebello, L. A.	11-	2-12	6,990	sd. sh. drlg.
Bush Oil, No. 2 Zanetti, Montebello, Los Angeles	3-	2-12	7,676	flow 295 b.d.
Caminol Co., No. 4-20 Cowan, Montebello, Los Ang.	3-	2-12	5,990	sd. sh. drlg.
C. A. P. Oil, No. 1 Dutch, Montebello, Los Angeles	11-	2-12	7,657	completing
Columbia Oil, No. 1 Schelnik, Montebello, Los Angeles	3-	2-12	6,570	sd. sh. drlg.
Franru Oil, No. 1 Condaffer, Montebello, Los Angeles	11-	2-12	3,998	sd. sh. drlg.
Herley-Kelly, No. 3 Burke, Montebello, Los Angeles	2-	2-12	4,485	cleaning out
Junior Oil Co., No. 1 Kay, Montebello, Los Angeles	10-	2-12	7,610	completing
Larson Drlg., No. 3 Van Deusen, Montebello, L. A.	11-	2-12	7,894	P.B. 7,630
Mabee Co., No. 6 Mulholland, Montebello, Los Angeles	2-	2-12	3,983	sd. sh. drlg.
Shoreline Drlg., No. 1 Mont., Montebello, L. A.	11-	2-12	7,580	sd. sh. drlg.
Stagg Oil, No. 1 Brown, Montebello, Los Angeles	10-	2-12	7,561	sd. sh. drlg.
Star Pet., No. 1 Allen, Montebello, Los Angeles	11-	2-12	7,515	O.S. drlg.
Texas Co., No. 2 Wilcox, Montebello, Los Angeles	3-	2-12	7,740	redrlg. 5,650
Westmont Oil, No. 1 West, Montebello, Los Angeles	11-	2-12	7,510	sd. sh. drlg.
Winlock Oil, No. 1 Win, Montebello, Los Angeles	11-	2-12	7,590	completing
Allied Pet., No. 34 Signal, Long Beach, Los Angeles	30-	4-12	7,060	sd. sh. drlg.
Dunlap Oil, No. 14 Signal, Long Beach, Los Angeles	24-	4-13	3,770	O.S. drlg.
Caminol Co., No. 3-19 Dominguez, Long Beach, L. A.	11-	4-13	8,402	P.B. 7,674
Worland, C. C., No. 1 Oates, Castaic, Los Angeles	17-	5-16	951	sd. sh. drlg.
Great Northern Oil, No. 1 Oak, Richfield, Orange	28-	3- 9	3,225	cleaning out
Morgan, George, No. 1 Fricke, Yorba Linda, Los A.	21-	3- 9	2,125	cmtd. 2,000
Master Pet., No. 1 Wright, East Coyote, Orange	30-	3- 9	5,550	pump 170 b.d.
Standard Oil, No. 2-13 Coyote, East Coyote, Orange	22-	3-10	4,680	completing
Southwest Expl., No. 23 State, Huntington B., Orange	10-	6-11	4,490	pump 530 b.d.
H. R. O. Oil, No. 1 Huntington, Huntington B., Orange	35-	5-11	2,550	sd. sh. drlg.
Orr, Sara, No. 1 Montgomery, Huntington B., Orange	36-	5-11	4,494	cleaning out
Pacific Amer. Oil, No. 6 Book, Huntington B., Orange	36-	5-11	3,540	sd. sh. drlg.
Tide Water A. O., No. 7 Bryant, Seal Beach, Orange	11-	5-12	4,343	cleaning out
Asphalt Pet., No. 1 Bryant, Seal Beach, Orange	11-	5-12	3,790	sd. sh. drlg.
Thompson, M. N., No. 1 Smith, Costa Mesa, Orange	9-	6-10	3,670	gr. sd. drlg.

OKLAHOMA

Week Ended February 3

NORTHERN OKLAHOMA

Caddo County

Sinclair Prairie Oil Co.'s No. 1 Groman, SW NW NW Sec. 1-16-13w. Wlx. 9,179 ft.; set 7-in. csg. 9,167 ft.; T.D. 9,195 ft.; cd. 9,205 ft.; rec. stain oil.

Comanche County

Mid Night Oil's No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; dpnd. to 998 ft.; perf.; swbg.

Creek County

Bryan Pet. Co.'s No. 1 Ah-Say, NE NW NE Sec. 34-14-7. S.D. 360 ft.

Waite Drlg. Co.'s No. 1 Garrett, NE NE NE Sec. 25-14-10. 1st Wlx. 3,160-76 ft.; S.S.O.&G. 3,118 ft.; S.D. 3,176 ft.

Dewey County

Magnolia Pet. Co.'s No. 1 Fiekes, C SW SW Sec. 31-18-14w. T.D. 6,480 ft.; W.O. C. 6,463 ft.

Garfield County

Fain Drlg.'s No. 1 Schnakenburg, NE SE SW Sec. 31-21-4w. Drlg. 5,635 ft.

Garvin County

Duckworth & Jennings' No. 1 Bowie, NW NE SE Sec. 3-4-3. W.O.C. 60 ft.

Grant County

Continental Oil Co.'s No. 1 Krichmar, SE SE NE Sec. 28-28-5w. Spd. 100 ft.; M. I. rot. to straighten hole.

Hughes County

Hall & Jordan's No. 1-A Barker, SE SE SW Sec. 3-8-9. S.D. 533 ft.

Tom Nix's No. 1-A Warren, SE SE SE Sec. 4-6-8. S.S.O. 903-08 ft.; T.D. 930 ft.; drlg. plug; may recmt.; S.D.

Walker & Johnson's No. 1 Rogers, NE NE NE Sec. 24-7-9. S.S.O. 565-85 ft.; S.D. 615 ft.

Kay County

Marland Oil Co.'s No. 1 Kreger, SE SE NE Sec. 4-25-2w. Rlg.

Marland Oil Co.'s No. 1 Woods, NW NW SW Sec. 19-25-1w. Rlg.

Malarnee Oil Co.'s No. 1 Harris, C SW NE Sec. 14-25-1. S.S.O. 3,583 ft.; T.D. 3,787 ft.; 8-in. 3,743 ft.; W.O.C.

Kingfisher County

Phillips Pet. Co.'s No. 1 Drape, C NW SE Sec. 30-18-5w. M.I. rot.

Kiowa County

Frank Dillard et al's No. 1 Hobbs, SE SE NW Sec. 35-8-17w. Set 6⅝-in. 525 ft.; T.D. 690 ft.

Lincoln County

R. M. Purcell et al's No. 1 Wolcott, NW NW NW Sec. 2-13-4e. R.O.G.

Geo. Travis et al's No. 1 Teter, NW NW SW Sec. 24-17-2. R.U.R.

Youngblood et al's No. 1 Wright, NE NE SE Sec. 32-16-6. Drlg. plug 3,750 ft.

McIntosh County

Phillips' No. 1 Blankenship, C SW NW Sec. 37-10-13. Drlg. 2,575 ft.

Muskogee County

R. Garrett's No. 1 Escoe, SW SW SE Sec. 16-13-17. S.D. 968 ft.

Noble County

Franks & Ellis' No. 1 Stranka, SW SW NW Sec. 35-24-1w. S.D. 1,665 ft.

Marland Oil Co.'s No. 1 Rosecrants, NW NW SE Sec. 14-24-1e. Loc.

Osage County

W. M. McKnab's No. 1 Osage, NW NE SW Sec. 15-29-8. T.D. 2,400 ft.; S.D.; repairs.

Payne County

Gardner Pet. Co.'s No. 1 Wetzel, NE SW SE Sec. 2-18-1e. Drlg. 2,600 ft.

H. N. Greis, Deep Rock Oil Corp., and Helmrich & Payne's No. 1 Kramer, NW NW SE Sec. 24-17-1e. Rlg.

Pontotoc County

Crescent Oil Co.'s No. 2 Thompson, NE NW SW Sec. 29-3-4. T.D. 460 ft.; S.D.

Starr O. & G. Co.'s No. 1 Bowlby, SW SW NW Sec. 29-5-4. Drlg. 670 ft.

Pottawatomie County

Alma Oil Co.'s No. 1 Lyday, SE NE SW Sec. 30-6-5. Drlg. 2,620 ft.

Seminole County

Stanolind O. & G. Co.'s No. 1 Aldridge, NW NE SE Sec. 32-9-8. Drlg. 1,530 ft.

SOUTHERN OKLAHOMA

Atoka County

Brookshire et al's No. 1 Jones, C SW NW Sec. 29-3s-12. Drlg. 550 ft.

Carter County

W. F. Turner's No. 1 Smith, NE SW SE Sec. 16-3s-1w. S.D. 3,640 ft.

Choctaw County

Clyde Ross et al's No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,832 ft.; S.D.

Jackson County

English Drlg. Co.'s No. 1-A Aetna Life, SE SE NE Sec. 26-3n-20w. Drlg. Arb. 1,615 ft.

Jones & Robinson's No. 1 Neal, SW SW SW Sec. 8-1s-20w. Rlg.

Jefferson County

Fred Land et al's No. 1 Barrett, NE SE SE Sec. 14-6s-6w. Sd. 1,852 ft., S.O.; D. P. stk. at 1,100 ft.; T.D. 1,890 ft.; S.D.

Marshall County

Johnson et al's No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Vla. 2,627 ft.; S.S.O.; T.D. 4,455 ft. in sd.; S.O.; S.D.

May Oil Corp.'s No. 1 Sacrea, SW NE SW Sec. 17-5-5. S.D. 326 ft.

Pure Oil's No. 1 Little, W½ NE SE Sec. 28-5s-7e. Drlg. 3,415 ft.

Stephens County

Edwin Bristow et al's No. 1-A Damion, SE NW SW Sec. 25-2s-6w. S.D. 740 ft.

KANSAS

Week Ended February 3 (Descriptions are East unless marked otherwise)

Barton County

Phillips' No. 1 Wondra, CWL SW NE Sec. 15-17-12w. Lans. 3,049 ft.; 700 ft. O.I.H., 10 hrs.; congl. 3,292 ft.; Arb. 3,316 ft.; S.O.&W. 3,318-20 ft.; test 4 B.O. and 4 B.W.

Butler County

Allison & Talbott's No. 1 Zink, SE SE NE Sec. 32-29-5. Drlg. 1,600 ft.

Atlantic and Sinclair's No. 1 Smith, SE SE NW Sec. 33-33-4. Drlg. 285 ft.

Natl. Ref. Co. No. 1 Lankford, SE SE NE Sec. 23-27-5. U.R. 2,540 ft.

Natl. Ref. Co.'s No. 1 Smith, NE NW SE Sec. 9-28-5. Drlg. 1,950 ft.

Cowley County

Atlantic and Sinclair's No. 1 Smith, SE SE NW Sec. 33-33-4. Drlg. 1,365 ft.

Crown Pet. Co. et al's No. 1 Dunn, NW NW SE Sec. 19-34-6. Cmtd. 10-in. 108 ft.; S.D. 200 ft.

Garden's No. 1 Rahn, SW SW NW Sec. 13-34-5. Bart. 2,936 ft.; T.D. 3,425 ft., in. Arb.; F. 120 B.O. 1st hr.; S.I.

Markey & Talbot's No. 1 Anderson, C N½ NE NW Sec. 21-30-3. S.D. 480 ft.

Mitchell Drlg.'s No. 1 Batcheider, CEL SW¼ Sec. 27-30-6. Arb. 3,320-50 ft., T.D.; N.S.; D.&A.

Ellis County

J. J. Hall's No. 1 Smith-A, C W½ NW NE Sec. 13-12-16w. R.U.

Ellsworth County

Cities Service Oil Co.'s No. 1 Padiena S.O. 2,836 ft.; T.D. 3,113 ft.; P. 595 B. W. and no oil in 21 hrs.; P. 25 B.O. and 589 B.W. in 22 hrs.; drld. cmt. and perf.; 350 ft. W.I.H. in 4 hrs.; P. B. 2,881 ft.; no shut off.

Phillips Pet. Co.'s No. 1 Sturn, SE SE NW Sec. 36-17-10w. W.O.C. 452 ft.

Greenwood County

A. A. Hinze et al's No. 1 Hester, NW SW NE Sec. 1-22-12. S.D. 510 ft.

Rex & Morris' No. 1-A Wright, C N½ Lot 16, Sec. 30-28-8. M.I.M.

C. L. Sheedy et al's No. 1 Hook, NW NW NW Sec. 4-22-10. S.D. 760 ft.

Jefferson County

McLaughlin Sons, Inc.'s No. 1 McLaughlin, SW NE NW Sec. 4-10-20. T.D. 1,915 ft.; whpstk. 1,858 ft.; fsg. 1,915 ft.

Johnson County

Thurow et al's No. 1 Green, SW NE SW Sec. 25-14-22e. Burg. 1,038 ft.; S.S.O.; cmt. 7-in. 1,040 ft. and S.D.

McPherson County

Aladdin Pet. Co.'s No. 1 Bitikofer, CNL NE NW Sec. 1-20-1w. Cellar.

Central Pet.'s No. 1 Swanson, C N½ NW NW Sec. 18-20-5w. Miss. 3,304-19 ft.; good sat.; R.U.S.T.; T.D. 3,348 ft.; F. 461 B.O. in 5 hrs.; pot. 1,383 B.O.; comp.

Marion County

Harrington & Lorieaux's No. 1 Belton, SE SE NE Sec. 30-17-4. S.D. 105 ft.

Polhamus et al's No. 1 Noone, NW NW SE Sec. 18-18-3. S.D. 2,785 ft.

Troxwell et al's No. 1 Bezdek, NE SW SW Sec. 32-17-4. Miss. 2,396 ft.; 7-in. 2,401 ft.; S.D. 2,443 ft.

Rice County

Mid-Plains Oil Co.'s No. 1 Newkirk, CSL SW SW Sec. 14-18-7w. Fsg. 2,942 ft.

Rooks County

Seaney & Clampitt's No. 1 Morrison, CS L SW NE Sec. 32-10-17w. Loc.

Russell County

I. W. Murfin et al's No. 1 St. Aubyan, CSL SW SE Sec. 1-15-15w. Drlg. 2,135 ft.

Webb & Wakefield's No. 1 Schmidtberger, CNL NE SW Sec. 17-13-15w. Drlg 1,780 ft.

Stafford County

Shell Oil's No. 1 Smith, SE SE NW Sec. 9-21-11w. S.S.O. in core at 3,410-15 ft.; R.U.S.T. 3,415 ft.; T.D. 3,462 ft.; P.B. 3,388 ft.; flw. 82 B.O. in 6 hrs. by hds. No test.

ARKANSAS

Columbia County

Ark. Fuel Oil Co.'s No. 2-B King, C SE NW Sec. 21-17-20. O.W.W.O.; went dead; drld. out cmt. and cd. 7,684-88 ft.; rec. 1½ ft. por. perm. ool. L.; D. S.T. 7,675-88 ft.; ⅝-in. ck. top and ¼-in. ck. bttm.; open 1 hr., tstd. 6,500 ft. S.W.; P.B. 7,640 ft.; to perf. 7,630-42 ft.

Hunt Oil Co.'s No. 2 McWilliams, NE NE Sec. 16-18-19. 9⅝-in. csg. 2,109 ft.; drlg. rd. sdy. sh. 6,579 ft.

J. K. Mahoney's No. 2 E. Riley, C NE NE Sec. 14-18-19. Drlg. sdy. sh. 5,232 ft.

Normandie Oil Co.'s No. 1 C. E. Crumpler, 495 ft. N, 660 ft. E, SW cor. SE Sec. 18-17-19. Drlg. rd. sdy. sh. 7,423 ft.

Oliphant Oil Co.'s No. 1 Rowe, 460 ft. N, 660 ft. E, SW cor. Sec. 16-17-20. R.U.

Placid Oil Co.'s No. 2 J. W. Boothe unit, C NW SW Sec. 20-17-19. R.U.

Shell Oil Co., Inc.'s No. 2 D. H. Lewis, C SE NE Sec. 19-17-19. T. Bknr. 7,401 ft.; T. Smkvr. 7,440 ft.; T. 1st por. 7,477 ft.; T.D. 7,622 ft.; rng. csg.

Southwood Oil Co.'s No. 1 Condi, 550 ft. S, 660 ft. W, NE cor. SE SE Sec. 23-17-20. Drlg. rd. sdy. sh. 5,945 ft.

Southwood's No. 1 Poindexter, 100 ft. N, C SE SE Sec. 23-17-20. Drlg. rd.& sdy. sh. 6,241 ft.

Standard Oil Co. of La.'s No. 2 Booth, 660 ft. E, 560 ft. S, NW cor. SW SE Sec. 24-17-20. Set 6-in. csg. 7,517 ft.; washed well; made dry gas; C.P. 2,425 lb.; T.P. 2,425 lb.; tstg.; T.D. 7,585 ft.; set 202 ft. 4¾-in. csg. on bottom; W.O.C.

Standard Oil Co. of La.'s No. 1-B Longino, C NW SE Sec. 19-17-19. Drlg. sdy. L. 6,370 ft.

Tide Water-Seaboard Oil Co.'s No. 1 W. Mack, C SW NE Sec. 16-18-19. Drlg. rd.&gr. sh. 3,525 ft.

Craighead County

Tennark, Inc., No. 1 R. M. Martin, SE cor. NE NE Sec. 35-14-3e. S.D. 4,910 ft.

Faulkner County

Cato Oil Co.'s No. 1 Harrell, 330 ft. SE cor. SE SW Sec. 35-4-12. U.R. 7-in. csg. 2,538 ft.

Howard County

Wm. James, tr.'s No. 3 I. M. Rooke, 50 ft. SW of No. 1, Sec. 2-8s-27w. Drlg. hd. rk. 508 ft.

Lafayette County

East Texas Ref. Co. et al's No. 1-C C.

Warren et al, C NE SE NW Sec. 24-16-24. Tstd. S.W. 3,504-24 ft.; P.B. 2,275 ft.; drld. to 2,345 ft.; 5½-in. csg. 2,323 ft.; T.D. 2,345 ft.; arng. swb.

Lonoke County

Lunnon Howell & Ford's No. 1 City of Cabot, C NE Lot 1, Blk. 6, Sec. 18-4n-9w. S.D. 872 ft.

J. F. Russell's No. 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. Sec. 17-5n-10w. S.D.; frozen wtr. line; T.D. 2,-114 ft.

Nevada County

Berry Asphalt Co.'s No. 5 Fincher, 220 ft. NW cor. NE SE Sec. 10-14-20. Set 10-in. csg. 20 ft.; T. sd. 1,245 ft.; set 7-in. csg. 1,245 ft.; T.D. 1,246 ft.; W. O.S.R.

Berry Asphalt Co.'s No. 9 Groves Ld. & Trmbr. Co., 330 ft. S and W, C Sec. 10-14-20. Set 10-in. csg. 28 ft.; S.D. 30 ft.

Texas Canadian Oil Corp.'s No. 1 J. M. Stocks, 300 ft. S, 380 ft. W, NE cor. SW SE Sec. 9-15-22. T.D. 3,654 ft.; M. I.F.O.

Union County—Schuler

Berg & Laney's No. 1 Cutrer, 150 ft. N, 660 ft. W, SE cor. NW SW Sec. 21-17-14. Set 10-in. csg. 114 ft.; drlg. 550 ft.

Lion Oil Ref. Co.'s No. 7-B Morgan, 330 ft. NW cor. W½ SE Sec. 18-18-17. T. Jones sd. 7,546 ft.; T.D. 7,730 ft.; set 7-in. csg. 7,730 ft.; reperf. 5,571-75 ft., 5,594-96 ft., and 5,831-33 ft.; swbd. 23 bbl. S.W. and oil in 9 hrs.; W.O.S.R.

Phillips Pet. Co.'s No. 5 Brian, 330 ft. SE cor. NW SE Sec. 13-18-18. Set 9⅝-in. csg. 2,249 ft.; drlg. rd.&gr. sh. 4,-983 ft.

Union County—Other

Barnsdall Oil Co.'s No. 1 Cameron, C SW SW Sec. 36-19-17. Set 13⅜-in. csg. 239 ft. (cor.); set 10¾-in. csg. 2,430 ft.; cd. 4,149-66 ft.; rec. 16 ft. 8 in. hd. sd., sl. odor gas; Bk chalk 2,593 ft.; T. Tko. 3,061 ft.; ran Schlmb. to 8,000 ft.; cd. 8,705-20 ft.; rec. 13½ ft. hd. tight, slightly por. sd.; cg. Bknr. 8,-877 ft.

Bob Branch's No. 1 J. M. Davis, 130 ft. SW cor. SE NW Sec. 28-16-14. T.D. 2,760 ft.; lost part of core bbl.; setting whpstk. 2,760 ft.

Delta Drlg. Co.'s No. 1 C. T. Grace, C SE SE Sec. 31-12-14. Set 10¾-in. csg. 815 ft.; T. Sur. L. 6,701 ft.; T. por. 6,-708 ft.; S.W. 6,712 ft.; tstd. mud, S.W.&S.O. 6,701-27 ft.; T.D. 6,819 ft.; arng. set 6-in. csg. approx. 4,800 ft.; wshg. to bttm., 6,819 ft.

Kinard, Curtis et al's No. 1 J. A. Kelly, 330 ft. SW cor. SE SW Sec. 9-17-14. R.U.

Ouachita Union Oil Corp.'s No. 1 Ramsey est., 330 ft. NE cor., SE NW Sec. 26-17-14. Set 10-in. csg. 107 ft.; set whpstk. 3,042 ft.; S.D., rd. sh. 3,490 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Harry Hanbury's No. 1 Holston unit, 70 ft. from NE cor. SW NE Sec. 29-18-6. Drlg. sh.&L. 5,226 ft.

Bossier Parish

Gulf Ref. Co.'s No. 20 C. B. Hodges, 3,-131 ft. N, 1,388 ft. W, SE cor. Sec. 24-16-12. T. Pett. L. 5,298 ft.; T. Travis Pk. 5,590 ft.; D.S.T. 8,261-93 ft.; tstd. 220 ft. mud; cg. ahead, hd. gr. sd. 8,-318 ft.

Premier Dev. Co.'s No. 1 Mehaffey, 150 ft. S, 1,980 ft. W, NE cor. Sec. 27-19-11. Set 12½-in. csg. 155 ft.; W.O.C.

Union Prod. Co.'s No. 1-B Thigpen-Herold, 1,275 ft. S, 1,279 ft. E, NW cor. Sec. 19-17-11. Drlg. sh.&L. 3,643 ft.

Caddo Parish

Hugh Carney's No. 1 Burton, 2,279 ft. S, 773 ft. W, NE cor. NW Sec. 1-20-16. Set 10-in. csg. 80 ft.; set 7-in. csg. 1,380 ft.; tstg. 1,490 ft.

D. T. Cauble's No. 1 Darnell, Sec. 17-22-16. Set 10-in. csg. 80 ft.; T.D. 2,125 ft.; S.D.; rig repair.

Mrs. O. P. Clements' No. 2-B Caddo Lv. Bd., Sec. 5-20-16. T. sd. 1,860 ft.; set 6-in. csg. 2,219 ft.; W.O.S.R. 2,305 ft.

Davidson & Brown's No. 1 Wells, Sec. 10-21-15. R.U.

H. H. Dillard's No. 1 Dillard, 595 ft. W, 50 ft. S, NE cor. SW SE Sec. 1-20-16. R.U.

Ferguson & Page's No. 3 Pala Oil Co., Sec. 1-20-16. Set 6-in. csg. 1,340 ft.; drlg. plug.

Gailbraith & Mealy's No. 19 Raines, Sec. 22-21-15. Set 6⅝-in. csg. 1,476 ft.; drlg. plug.

Magnolia Pet. Co.'s No. 29 Dillon, Sec. 24-21-15. Set 6-in. csg. 1,528 ft.; acd. 5,-000 gal.; T.D. 1,559 ft.; W.O.S.R.

Bobby Manziel's No. 1 City of Shreveport, 660 ft. NW cor. SW¼ Sec. 35-18-14. Set 13-in. csg. 228 ft.; W.O.C.

E. E. Marr's No. 1 Brown, Sec. 11-20-16. Set 10-in. csg. 100 ft.; set 7-in. csg. 1,-414 ft.; T.D. 1,600 ft.; acd. with 6,000 gal.; W.O.S.R.

J. F. Mechem's No. 2 Crystal fee, 400 ft. S, 640 ft. W NE cor. Sec. 14-21-16. Set 8-in. csg. 1,012 ft.; tstd. dry; set 5½-in. csg. 2,270 ft.; T.D. 2,283 ft.; W.O.C.

Lee Miller's No. 1 Crystal fee, Sec. 13-21-16. T.D. 2,277 ft.; Set 5½-in. csg. 2,265 ft.; tstg.

E. O. Mitchell's No. 1 fee, Sec. 12-20-16. Loc.

J. Ray Murray's No. 1 Slattery, 314 ft. N, 180 ft. E, SW cor. SE Sec. 21-21-15. Set 6-in. csg. 1,493 ft.; T.D. 1,661 ft.; acd. 2,000 gal.; pmpd. dry; arng. dpn.

O'Brien Bros.' No. 1 Bradford et al, Sec. 24-21-15. Set 10-in. csg. 100 ft.; set 6-in. csg. 1,450 ft.; W.O.S.R.; T.D. 1,600 ft.

Roberts & Murphy's No. 1 Caddo O. & R. Co., Sec. 12-20-16. R.U.

Stanolind O. & G. Co.'s No. 2 Alexander, 670 ft. E, 2,461 ft. S, NW cor. SE Sec. 21-21-15. 8-in. csg. 67 ft.; cg. clk. 1,-668 ft.

Stanolind O. & G. Co.'s No. 1, 131 Dillon hrs., C SE NE Sec. 14-21-15. Ran Schmb. 9,109 ft.; T. Smkvr. L. 8,952 ft.; ran Schlum. 10,164 ft.; T. cap rock 10,148 ft.; igneous rock 11,419 ft.; T. salt 10,159 ft.; base salt 11,405 ft.; T.D. 11,419 ft.; pulled 4,245 ft. of 7-in. csg.; milled 9⅝-in. csg. 3,930-36 ft.; perf. 3,930-38 ft.; D.S.T.: ⅝-in. cks. T.&B.; W.P. 500 lb.; open 25 min., rec. est. 15,000,000 cu. ft. gas; ran tbg. to 3,929 ft. and swbd. dry; S.I.; re-opened and flwd. est. 1,500,000 cu. ft. gas and 150 bbl. S.W.; 33/64-in. cg.; S.I.; C.P. 875 lb.; T.P. 890 lb.

Stanolind O. & G. Co.'s No. 3 Noel, Sec. 13-21-15. Arng. set 6-in. csg. 1,663 ft., sh.

Joe G. Strahan's No. 2 Hart, Sec. 29-21-16. Set 10-in. csg. 60 ft.; S.D. 1,800 ft.

L. L. Sugar's No. 1-B Muslow, Sec. 32-21-15. R.U.

Jack Terrell's No. 1 Welch, Sec. 3-20-16. Set 6-in .csg. 946 ft.

W. & W. Oil Co.'s No. 4 Ark. F. O. Co., Sec. 12-20-16. R.U.

Sloan Wells' No. 1 Stiles, 3,734 ft. N, 1,706 ft. E, SW cor. Sec. 32-21-16. Set 10-in. csg. 340 ft.; drlg. 1,540 ft.

Claiborne Parish

Sugar Creek Synd.'s No. 1 Robinson, 690 ft. W, 570 ft. S, NE cor. NE SE Sec. 32-20-5. Set 9⅝-in. csg. 570 ft.; oil sd. 5,751-72 ft.; set csg. 5,790 ft.; T.D. 5,-815 ft.

De Soto Parish

Dewey Jaun's No. 1 Frost Lbr. Ind., 6,-600 ft. SE cor. SW Sec. 14-22-3e. Set 10-in. csg. 545 ft.; cd. br. chk., S.O. 2,945-53 ft.; rng. survey 2,953 ft.

La Salle Parish

H. L. Hunt and Ark. Fuel Oil Co.'s No. 1 Goodpine Lbr. Co., C NW NW Sec. 18-10n-3e. Fsg. 3,030 ft. blew out and bridged at 1,200 ft.; drld. bridge and twisted off 2,000 ft. D.S.; left wall hook in hole while fsg.; P.B. 900 ft. whpstk. 900 ft.; ran Schlmb. to 3,039 ft.; drlg. sdy. sh. 5,930 ft.

Morehouse Parish

Union Prod. Co.'s No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. Set 20-in. csg. 125 ft.; 16-in. csg. 712 ft.; set 10¾-in. csg. 2,448 ft.; T. salt 8,114 ft.; T.D. 10,475 ft., hd. sd.; P.B. 2,250 ft.; drld. out to 2,353 ft.; perf. 2,163-2,225 ft.; W.O. ga.

Sabine Parish

Ed Bailey's No. 1 Hale, 330 ft. NW cor. NE NW Sec. 6-7-12. S.D. 1,960 ft.

R. Chestnut's No. 1 Walden, 330 ft. SE cor. NE NE Sec. 27-10-13. Set 10-in. csg. 42 ft.; set 7-in. csg. 1,458 ft.; drlg. 1,510 ft.

John Derryberry et al's No. 1 Manton, 330 ft. NE cor. NW SW Sec. 34-7-13. 6-in. csg. 2,450 ft.; T.D. 2,986 ft.; acd. 2,000 gal.; pmpd. dry; dpnd. to 3,009 ft.; S.D.; W.O.

Hunter Co.'s No. 3-B Sabine, C SE NW Sec. 17-7-13. Set 6-in. csg. 2,111 ft.; tstg. 2,114 ft.

N. B. Livingston's No. 1 Bowman Hicks, 660 ft. SE cor. SW Sec. 36-9-14. Set 10-in. csg. 110 ft.; D.S.T. 3,125-59 ft.; ¼-in. cks. T.&B.; 35 min.; rec. 150 ft. mud and S.G.; rng. 5½-in. csg. 3,508 ft., T.D.; tstd. gas 3,462-3,535 ft.; perf. between 3,134 ft. and 3,462 ft. and tstd. est. 1,000,000 cu. ft. gas, S.O. and S.W.; P.B. 3,200 ft.; tstg.

Major Oil Co.'s No. 2 Sabine, 330 ft. SE cor. SE SW Sec. 5-7-13. R.U.

B. F. Phillips' No. 1 Blankenship, 330 ft. S, 202 ft. W, NE cor. SE NW Sec. 13-9-12. Reported S.G. 3,230 ft.; set 7-in. csg. 3,200 ft. (cor.); S.G. 3,216-25 ft.; T.D. 3,685 ft.; tstg.

Claude H. Smith's No. 1 Whitney Corp., 330 ft. N and E, C Sec. 24-10-14. Drlg. 1,540 ft.

J. E. Stack's No. 1 Weber, 330 ft. SE cor. SW NE Sec. 8-7-13. Set 10-in. csg. 42 ft.; abd.; will not drill.

J. H. Thames' No. 1 Long Bell, 330 ft. SW cor. NE SE Sec. 5-8-13. T.D. 1,708 ft.; set 7-in. csg. 1,680 ft.; did not tst. 1,708 ft.; S.D. 1,722 ft.; W.O.

Lee Whitehurst's No. 1 Summers, -1,210 ft. N. 440 ft. W, SE cor. NE Sec. 14-7-13. Set 6-in. csg. 3,131 ft.; tstd. S.O.; acd. 1,000 gal.; tstg. 2,581 ft.

Union Parish

Memphis Nat. Gas Co.'s No. 4 Lankford, Sec. 3-21-3. Set 8-in. csg. 783 ft.; W. O.C.

Memphis Nat. Gas Co.'s No. 9 Lankford, Sec. 26-22-3. Set 8-in. csg. 771 ft.; W. O.C.

We Hope O. & G. Co.'s No. 11 Frost Lbr. Ind., Sec. 14-22-3. Set 12½-in. csg. 157 ft.; W.O.C.

H. L. Woods' No. 3 Union Power, Sec. 29-21-3. R.U.

Webster Parish

Hassie Hunt's No. 2 Coyle, C SW SE Sec. 22-21-10. No Hilwy. sd.; P.B.; set 5,918 ft.; T.D. 6,294 ft.; rocking with gas and tstg.

Hunt Oil Co.'s No. 1 Gains, 50 ft. NW C NW NE Sec. 30-21-9. Set 9⅝-in. csg. 5,615 ft.; no Hilwy. sd.; drlg. sdy. sh. 7,616 ft.

Hunt Oil Co.'s No. 1 Grant Lbr. Co., 660 ft. N, 1,880 ft. E, SW cor. Sec. 12-21-10. Drlg. 2,580 ft.

Hunt Oil Co.'s No. 1 Jordan, 660 ft. N, 560 ft. W, SE cor. Sec. 31-21-10. Drlg. sh.&L. 5,530 ft.

Hunt Oil Co.'s No. 1 Stewart, 660 ft. N, 560 ft. E, SW cor. NW¼ Sec. 29-21-10. R.U.

Quad Oil Co.'s No. 2 Gray, 730 ft. NW cor. SW¼ Sec. 26-21-10. Drlg. sh.&L. 3,150 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co.'s No. 1 David Meaux, Sec. 9-12s-3e. T.D. 11,359 ft.; T. gas sd. 11,318 ft.; D.S. stk.; P.B. and sidetracked; drlg. sh. 11,545 ft.

Continental Oil Co.'s No. 1 DeMary, Sec. 17-12s-3e. T.D. 10,624 ft.; 6-in. csg. on bttm.; tstg.

Continental Oil Co.'s No. 1 Franciol, Sec. 67-12s-3e. T.D. 7,909 ft.; 6-in. csg. 7,909 ft.

Continental Oil Co.'s No. 1 Motty, Sec. 18-12s-3e. T.D. 10,444 ft.; fsg.

Stanolind O. & G. Co.'s No. 1 LeBoeuf, Sec. 58-12s-3e. Drlg. 6,436 ft.

Anse La Butte—St. Martin Parish

Glassell & Glassell's No. 1 Breauy, Sec. 117-9s-5e. T.D. 5,685 ft.; 7-in. csg. 5,-500 ft.

Emer Line Oil Co.'s No. 1 Nickerson, Sec. 86-9s-5e. Drlg. sh. 1,300 ft.

Bancroft—Beauregard Parish

Republic Prod. Co.'s No. 15 Columbia Ld. Co., Sec. 21-6s-13w. Loc.

Republic Prod. Co.'s No. 4 Lutcher Moore, Sec. 16-6s-13w. T.D. 10,019 ft.; 5½-in. csg. 7,355 ft.; tstg.

Barataria—Jefferson Parish

California Oil Co.'s No. 1 Danciger-State, Sec. 2-16s-23e. Loc.

California Oil Co.'s No. 1 Zeringue-Community, Sec. 2-16s-23e. Loc.

Carter, Perrin & Brian's No. 1 Ruttley Wiseman, Sec. 2-16s-23e. R.U.

Geo. Conover's No. 1 Conover Community, Sec. 22-15s-23e. Loc.

Fohs Oil Co.'s No. 1 Conzelman, Sec. 22-15s-23e. Loc.

Gulf Oil Corp.'s No. 1 Rathborne Co., Sec. 2-16s-23e. Top O.S. 8,200 ft.; T.D. 8,210 ft.; 7-in. csg. 8,195 ft.; tstg.

Bateman Lake—St. Mary Parish

Texas Co.'s No. 3 State, Sec. 16s-12e. Drlg. sh. 7,136 ft.

Texas Co.'s No. 3 Wax Bayou, Sec. 21 16s-12e. Drlg. sh. 10,830 ft.

Texas Co.'s No. 4 Wax Bayou, Sec. 21-16s-12e. Drlg. sh. 10,197 ft.

Baton Rouge—East Baton Rouge Parish

Guaranty Oil Co.'s No. 2 Morgan, Sec. 65-7s-1w. T.D. 6,530 ft.; 5½-in. csg. 6,450 ft.; swbd. S.W.; S.D.

Wm. Helis' No. 4-B Duplantier, Sec. 68-7s-1w. 10¾-in. csg. 2,049 ft.; T.D. 6,498 ft.; W.O.C.

Wm. Helis' No. 7 Nelson, Sec. 36-7s-1w T.D. 6,485 ft.; 7-in. csg. 6,479 ft.; I.P. 214 bbl. P.D.; 10/64-in. choke.

Lisbon-Iberia Oil Co.'s No. 3-A College Town Community, Sec. 68-7s-1w. Drlg. sh. 5,212 ft.

Sugarfield Oil Co.'s No. 1 Kizer Community, Sec. 46-7s-1e. 10¾-in. csg. 1,-415 ft.; T.D. 7,356 ft.; perf. csg. 4,127-34 ft.; rec. S.W.; abd.

Bay St. Elaine—Terrebonne Parish

Texas Co.'s No. 3 L.L.&E., Sec. 18-22s-18e. Loc.

Bayou Blue—Iberville Parish

Superior Oil Co.'s No. 1 Schwing Lbr Co., Sec. 74-9s-10e. T. salt 6,670 ft.; T.D. 6,795 ft.; run csg. to drill deeper.

Bayou Choctaw—Iberville Parish

Standard Oil Co. of La.'s No. 2 Cypress, Sec. 28-8s-11e. Bldg. rd.

Standard Oil Co. of La.'s No. 12 Wilbert Sec. 53-9s-11e. Ran 10¾-in. csg.; T.D. 5,452 ft.; sdtrkd.; T.D. 3,823 ft.; oil sd. 3,740-3,822 ft.; 7-in. csg. 3,828 ft.; perf. csg. 3,800-20 ft.; flwd. 16 bbl. fluid per hour; went dead.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co.'s No. 2-B Wilberts, Sec. 78-8s-8e. 10¾-in. csg. 2,854 ft.; drlg. sh. 4,938 ft.

Black Bayou—Cameron Parish

Shell Oil Co., Inc.'s No. 44 Watkins, Sec. 7-12s-12w. Loc.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 62 State-Caillou Island, Sec. 17-23s-20e. 10¾-in. csg. 1,473 ft.; T.D. 5,955 ft.; 7-in. csg. 5,772 ft.

Texas Co.'s No. 63 State, Sec. 17-23s-20e. T.D. 4,122 ft., salt; 7-in. csg. 4,060 ft.; perf. csg. 3,944-4,000 ft.; I.P. 216 bbl. P.D.; ⅞-in. choke.

Cameron Meadows—Cameron Parish

Magnolia Pet. Co.'s No. 26 Cameron Meadows, Sec. 21-14s-13w. T.D. 5,807 ft.; abd.

Chacahoula—La Fourche Parish

Sun Oil Co.'s No. 1 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,842 ft.; T. salt 6,-072 ft.; T.D. 6,088 ft.; P.B. 2,100 ft.; sdtrkd.; T.D. 6,553 ft.; fsg.; sdtrkd.; T.D. 5,544 ft.; P.B. to sdtrk.; T.D. 7,-271 ft.; sdtrkd.; drlg. sd.&L. 7,401 ft.

Sun Oil Co.'s No. 6 Dibert, Stark & Brown, Sec. 70-15s-15e. T.D. 7,295 ft.; comp.; no gage.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 6 Sweet Lake Ld. & O. Co., Sec. 8-12s-6w. T.D. 8,675 ft.; abd.

Shell Oil Co., Inc.'s No. 6 Hanzen, Sec. 21-12s-6w. T.D. 8,951 ft.; perf. csg. 8,-910-33 ft.; I.P. 880 bbl. P.D.; ¼-in. choke.

Shell Oil Co., Inc.'s No. 7-A Hanszen, Sec. 20-12s-6w. R.U.

Union Sulphur Co.'s No. 1 Sweet Lake Ld. Co., Sec. 13-12s-7w. Drlg. L. 5,545 ft.

Cheneyville—Rapides Parish

S. W. Richardson's No. 9 Weil, Sec. 53-1s-2e. T.D. 5,640 ft.; rmg.

Creole—Cameron Parish

Superior Oil Co.'s No. 10 State-Gulf of Mexico, Twp. 15s-8w. T.D. 8,607 ft.; sdtrkd.; drlg. sd.&sh. 4,280 ft.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 28 Community, Sec. 30-10s-2e. R.U.

Humble O. & R. Co.'s No. 29 Community, Sec. 30-10s-2e. Loc.

Humble O. & R. Co.'s No. 17 Gumbel, Sec. 36-10s-2e. T.D. 8,570 ft.; P.B. 7,-389 ft.; sdtrkd.; T.D. 7,503 ft.; P.B.; sdtrkd.; drlg. sh. 7,990 ft.

Kiva Oil Co. No. 1 Duplessis, Sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co.'s No. 10 State, Sec. 1-22s-15e. Drlg. sh. 7,300 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 2 Dent, Unit 2, Sec. 10-2s-2e. Drlg. sh. 4,860 ft.

Amerada Pet. Corp.'s No. 1 Giglio, Sec. 6-2s-3e. Drlg. sh. 8,220 ft.

Amerada Pet. Corp.'s No. 3 Irion, Sec. 6-2s-3e. R.U.

Amerada Pet. Corp.'s No. 1 Monchau, Sec. 1-2s-2e. Loc.

Amerada Pet. Corp.'s No. 1 E. O. Sellers, Sec. 1-2s-2e. T.D. 8,570 ft.; 5½-in. csg. on bttm.

Gulf Oil Corp.'s No. 1 Mouliere, Sec. 1-2s-2e. Spd.

Magnolia Pet. Co.'s No. 1 O. Q. Foster, Sec. 6-2s-3e. Loc.

S. W. Richardson's No. 8 Haas Inv. Co., Sec. 7-2s-3e. Cg. 8,456 ft.

Sun Oil Co.'s No. 3 Townsend, Sec. 8-2s-3e. Drlg. sh. 8,176 ft.

Fausse Point—Iberia Parish

Sun Oil Co.'s No. 1 Planters Lbr. Co., Sec. 27-11s-8e. Loc.

Texas Co.'s No. 7 State, Sec. 35-11s-8e. R.U.

Gibson—Terrebonne Parish

Shell Oil Co., Inc.'s No. 8 Pelican, Sec. 35-17s-15e. Driving piling.

Gorden Island—Plaquemines Parish

Texas Co.'s No. 40 State-Garden, Sec. 38-23s-33e. Drlg. 1,690 ft.

Texas Co.'s No. 41 State, Sec. 38-23s-33e. Drlg. sh. 3,636 ft.

Golden Meadow—La Fourche Parish

Bateman Drlg. Co.'s No. 1 Harry Louviere, Sec. 9-19s-22e. T.D. 5,560 ft.; 5½-in. csg. 5,260 ft.; perf. csg. 5,150-80 ft.; S.D.

Bennett O. & R. Co.'s No. 1 Philozate, Sec. 12-19s-22e. T.D. 8,605 ft.; perf. csg. 8,360-8,400 ft.; blew out, flwg. oil and gas; tstg.

Berkshire Oil Co.'s No. 11 Nicol, Sec. 2-19s-22e T.D. 2,680 ft.; 7-in. csg. 2,680 ft.; perf. csg. 2,620-62 ft.

Brown & Woods' No. 1 S. Hogan, Sec. 9-19s-22e. T.D. 2,710 ft.; P.B. to 1,-500 ft.; sdtrkd.; T.D. 2,672 ft.; 7-in. csg. on bttm.; perf. csg. 2,650-65 ft.; would not flow; S.D.

Taylor Fithian's No. 1 Cheramie, Sec. 12-19s-22e. Drk.

Taylor Fithian's No. 1 Martin, Sec. 12-19s-22e. Spd.

Wm. Helis' No. 3 Gaspard, Sec. 9-19s-22e. 6-in. csg. 2,655 ft.; T.D. 2,664 ft.; W.O.S.R.

Geo. Lilly's No. 1 Collins, Sec. 12-19s-22e. Drlg. sdy. sh. 2,987 ft.

Jim McMurray Prod. Co.'s No. 2 Collins, Sec. 12-19s-22e. Drlg. sh. 2,710 ft.

M. H. Marr et al's No. 2 B. & D. unit, Sec. 17-19s-22e. Loc.

M. H. Marr et al's No. 3 Terrebonne. Sec. 9-19s-22e. R.U.
M. H. Marr et al's No. 4 Adam Terrebonne, Sec. 9-19s-22e. Drk.
Martex Oil Co.'s No. 1-B Rebstock, Sec. 2-19s-22e. 10¾-in. csg. 668 ft.; T.D. 5,361 ft.; perf. csg. 5,172-80 ft.
Martex Pet. Co.'s No. 2-B Rebstock Community, Sec. 2-19s-22e. T.D. 2,690 ft.; 5-in. csg. 2,684 ft.; went dead; swbg.
Martex Oil Co.'s No. 3-A Rebstock, Sec. 2-19s-22e. T.D. 2,665 ft.; 5-in. csg. 2,665 ft.; perf. csg. 2,630-62 ft.
Terouche Oil Co.'s No. 2 Cheramie, Sec. 12-19s-22e. Drk.
Texas Co.'s No. 7 Falgout Holding Co., Sec. 9-19s-22e. Drlg. sh. 7,460 ft.
Texas Co.'s No. 9 Falgout Holding Co., Sec. 9-19s-22e. T.D. 5,175 ft.; 7-in. csg. 5,162 ft.
Texas Co.'s No. 10 Falgout Holding Corp., Sec. 9-19s-22e. T.D. 7,940 ft.; 7-in. csg. 7,902 ft.
Texas Co.'s No. 10 Falgout Holding Corp., Sec. 9-19s-22e. 7-in. csg. 7,902 ft.
Texas Co.'s No. 9 Golden Meadow, Sec. 78-19s-21e. R.U.
Texas Co.'s No. 3 La Terre Co., Sec. 1-20s-21e. T.D. 5,673 ft.; sdtrkd.; drlg. 5,394 ft.
Texas Co.'s No. 4 La Terre Co., Sec. 2-20s-21e. T.D. 2,683 ft.

Grand Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. T.D. 10,453 ft.; P.B. 10,050 ft.; 5-in. csg. 10,073 ft.; perf. csg. 10,008-22 ft.; flwd. oil and S.W.; sqzd. perf.; reperf. csg. 9,980-90 ft.; flwg. P.L.O.
Gulf Oil Corp.'s No. 7-A Grand Prairie Lv. Dist., Sec. 5-20s-19e. Loc.
Gulf Oil Corp.'s No. 8-A Grand Prairie Dist., Sec. 5-20s-19e. Loc.
Gulf Oil Corp.'s No. 4 State, Sec. 20-19s-19e. Loc.
Texas Co.'s No. 1 State-Lookout Pass, Sec. 48-20s-18e. Loc.
Texas Co.'s No. 2 State-Lookout Pass, Sec. 31-19s-19e. Drlg. sh. 7,210 ft.

Grand Lake—Cameron Parish

Amerada Pet. Corp.'s No. 3 State, Sec. 12-13s-4w. Drlg. sh. 2,020 ft.
Superior Oil Co.'s No. 7 State, Sec. 11-13s-4w. Drlg. sh. 6,186 ft.

Hackberry—Cameron Parish

Harrison & Abercrombie's No. 1 Doiron, Sec. 37-12s-10w. 10¾-in. csg. 1,441 ft. drlg. sh. 4,318 ft.
Stanolind O. & G. Co.'s No. 21-A Cameron Sch. Bd., Sec. 16-12s-10w. Drlg. sh. 5,096 ft.
Superior Oil Co.'s No. 2 Vincent, Sec. 30-12s-10w. Drlg. sh. 7,246 ft.
Texas Co.'s No. 28-B State. Drlg. sh. 6,330 ft.
Texas Co.'s No. 29-B State, Twp. 12s-9w. Cg. sd. 6,096 ft.

Happytown—Iberville Parish

Shell Oil Co., Inc.'s No. 1 Schwing Lbr. & Shingle Co., Sec. 85-7s-8e. Bldg. drk.

Horseshoe Bayou—St. Mary Parish

Texas Co.'s No. 3 St. Mary Parish Ld. Co., Sec. 37-17s-9e. Drlg. sh. 10,830 ft.

Jeanerette—St. Mary Parish

Herton Oil Co.'s No. 6 Roane, Sec. 38-13s-9e. T.D. 10,789 ft.; 7⅝-in. csg. 10,260 ft.; stk. cutting tool; P.B. 10,170 ft.; perf. csg. 9,712-20 ft.; rec. S.W.; perf. csg. 9,694-9,702 ft.

Jefferson Island—Iberia Parish

Texas Co.'s No. 4 Jefferson Island Salt, Sec. 58-12s-5e. Drlg. sh.&L. 7,910 ft.
Texas Co.'s No. 3 State, Twp. 12s-5e Drlg. sh. 2,430 ft.

Jennings—Acadia Parish

Brown & Sisson's No. 1 Arnaudet, Sec. 47-9s-2w. Loc.
Glassell-Glassell's No. 8 McFarlain, Sec. 41-9s-2w. Drk.
Glassell-Glassell's No. 8 Trusher, Sec. 47-9s-2w. T.D. 9,165 ft.; sdtrkd.; drlg. sh. 8,575 ft.
Gulf Oil Corp.'s No. 42 Arnaudet, Sec. 47-9s-2w. Drlg. sh. 7,395 ft.
Shell Oil Co., Inc.'s No. 9 Community Cg. sh. 7,019 ft.
Stanolind O. & G. Co.'s No. 116 Crowley O. & M. Co., Sec. 48-9s-2w. Drlg. 8,178 ft.
Stricker-Pharis et al's No. 1 Gulf fee, Sec. 45-9s-2w. 16-in. csg. 60 ft.; drlg. sh. 5,026 ft.

Lafitte—Jefferson Parish

Texas Co.'s No. 15 Lafitte, Sec. 20-17s-24e. Drlg. 6,920 ft.
Texas Co.'s No. 5 Marrero, Sec. 21-17s-24e. Drlg. sh. 3,412 ft.
Texas Co.'s No. 12 Rigolets Cooperative Fur Co., Sec. 28-17s-24e. Drlg. sh. 9,518 ft.

La Fourche Crossing—La Fourche Parish

Mikton Oil Co.'s No. 2 Martinez, Sec. 132-15s-17e. 11¾-in. csg. 2,687 ft.; T.D. 4,904 ft.; P.B. 4,700 ft.; drlg. sh. 8,367 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp.'s No. 11 La Fourche Basin Lv. Dist., Sec. 11-18s-25e. Drlg. sh. 7,196 ft.

Lake Mongoulois—St. Martin

Texas Co.'s No. 8 State, Sec. 10-10s-9e. Drk.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 10 State, Sec. 7-23s-18e. Drlg. sh. 5,212 ft.
Texas Co.'s No. 29 State, Sec. 18-23s-18e. T.D. 5,743 ft.; 7-in. csg. 5,300 ft.; perf. csg. 5,040-5,120 ft.; I.P. 120 bbl. P.D., ⅛-in. ck.
Texas Co.'s No. 30 Lake Peito, Sec. 7-23s-18e. T.D. 5,271 ft., salt; sdtrkd.; T. salt 5,243 ft.; P.B. sdtrk. drlg. sh. 5,260 ft.

La Place—St. James Parish

Pan American Prod. Co.'s No. 1 Godchaux Sugars, Sec. 97-11s-7e. R.U.

New Iberia—Iberia Parish

Acadian Prod. Co.'s No. 4 E. T. Weeks, Sec. 51-12s-7e. Loc.
Wm. Helis' No. 7 J. E. Schwing, Sec. 56-12s-7e. T.D. 8,850 ft.; P.B. 7,840 ft.; T.D. 8,850 ft.; P.B. 8,025 ft.; went back into old hole; P.B. and sdtrk.; T.D. 8,240 ft.; 7-in. csg. 8,200 ft.; well went dead; swbg.
Wm. Helis' No. 9 Schwing, Sec. 56-12s-7e. T.D. 855 ft.; 7-in. csg. 825 ft.; W.O.S.R.
Texas Co.'s No. 2 Bryant, Sec. 25-12s-7e. R.U.
Texas Co.'s No. 14 Duke, Sec. 26-12s-7e. Drlg. sh. 5,920 ft.
Texas Co.'s No. 15 Duke, Sec. 26-12s-7e. Drk.
Texas Co.'s No. 2 Hebert, Sec. 25-12s-7e. Loc.
Texas Co.'s No. 1 H. Perry Walet, Sec. 2-12s-7e. Drlg. sh. 9,060 ft.
Texas Co.'s No. 2 Smith, Sec. 71-12s-7e. Drlg. sh. 1,530 ft.

North Crowley—Acadia Parish

Humble O. & R. Co.'s No. 3 Stokes, Sec. 33-8s-1e. Drlg. sdy. sh. 8,350 ft.

Paradis—St. Charles Parish

Texas Co.'s No. 3 L.L.&E. Paradis, Sec. 8-14s-20e. 10¾-in. csg. 1,448 ft.; cg. 10,210 ft.

Plumb Bob—St. Martin Parish

Texas Co.'s No. 13 St. Martin Ld. Co., Sec. 21-8s-7e. Drk.

Port Barre—St. Landry Parish

Gulf Oil Corp.'s No. 17 Wilson-Broach, Sec. 4-6s-5e. T.D. 4,861 ft.; P.B. 2,061 ft.; sdtrkd.; T.D. 5,704 ft., salt; P.B. sdtrkd. drlg. sh. 2,400 ft.
McDannald Oil Co.'s No. 2 Futral, Sec. 20-6s-5e. Drlg. sh. 3,920 ft.
Y. D. Spill's No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.
Texas Co.'s No. 27 Botney Bay, Sec. 4-6s-5e. Drlg. sh. 3,165 ft.
Westgate-Greenland Oil Co.'s No. 1 Jeansenne, Sec. 20-6s-5e. T.D. 5,286 ft.; 7-in. csg. 5,286 ft.; perf. csg.; S.D. 5,288 ft.

Potash—Plaquemines Parish

Humble O. & R. Co.'s No. 41 Orleans, Sec. 14-18s-15e. T.D. 4,430 ft.; P.B.; sdtrkd.; drlg. sd. 4,535 ft.
Humble O. & R. Co.'s No. 42 Orleans Lv. Dist., Sec. 14-18s-15e. Loc.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 4-A Orleans Lv. Bd., Sec. 7-19s-17e. T.D. 8,255½ ft.; 7-in csg. 8,238 ft.; I.P. 357 bbl. P.D., ¼-in choke.
Gulf Oil Corp.'s No. 9 State QQ, Sec. 18-19s-17e. Drlg. sh. 8,260 ft.

Roanoke—Jeff Davis Parish

Humble O. & R. Co.'s No. 7 Kratzer, Sec. 11-9s-4w. Drlg. sh. 7,945 ft.

Sorrento—Ascension Parish

Sorrento Synd.'s No. 2 L. L. Bernard Sec. 22-10s-4e. R.U.

South Jennings—Jeff Davis Parish

Stanolind O. & G. Co.'s No. 1 Clare E. Landry and A. A. Hebert. Spudded.
Stanolind O. & G. Co.'s No. 1 Morgan, Sec. 15-10s-3w. Bldg. rd.
Stanolind O. & G. Co.'s No. 1 L. Remage, Sec. 9-10s-3w. Bldg. rd.

Starks—Calcasieu Parish

W. T. Burton's No. 1 Industrial Lbr. Co., Sec. 29-9s-1w. T.D. 7,416 ft.; run screen to test.

Sweet Lake—Cameron Parish

Pure Oil Co.'s No. 15 Yount Lee, Sec. 12-13s-8w. Loc.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 7 Buras Levee Bd. Sec. 22-21s-30e. R.U.
Tide Water Asso. Oil Co.'s No. 11 Manhattan Ld. Co., Sec. 35-21s-30e. T.D. 7,822 ft.; 7-in. csg. 7,805 ft.; perf. csg. 7,778-94 ft.; flwd. oil and S.W.; perf. csg. 7,770-90 ft.; I.P. 147 B.O.P.D. ¼-in. choke.

Vermilion Bay—Iberia Parish

Texas Co.'s No. 4-B Vermilion Bay, Twp. 16s-5e. Drlg. sh. 5,210 ft.

Villa Platte—Evangeline Parish

Continental Oil Co.'s No. 2 B. G. Fontenot, Sec. 41-4s-2e. Drk.
Continental Oil Co.'s No. 5 Fontenot, Sec. 46-3s-2e. Drlg. sh. 8,910 ft.
Continental Oil Co.'s No. 6 Opelousas, Sec. 47-3s-2e. T.D. 9,168 ft.; W.O.C.
Continental Oil Co.'s No. 3 Adam Tate Sec. 40-4s-2e. Drlg. sh. 8,020 ft.
Danciger O. & R. Co.'s No. 1 J. E. Vidrine, Sec. 1-4s-2e. Drlg. sh. 9,630 ft.

West Gueydan—Vermilion Parish

Magnolia Pet. Co.'s No. 4 Ferguson, Sec. 5-12s-2w. T.D. 7,161 ft.; 7-in. csg. 7,161 ft.; perf. csg. 7,148-58 ft.; I.P. 120 bbl. P.D. 12/64-in. choke.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc.'s No. 4 Jeanerette Drlg. sh. 10,357 ft.

White Castle—Iberville Parish

Shell Oil Co., Inc.'s No. 1 Forest Home. M.I.M.

Woodlawn—Jeff Davis Parish

Union Sulphur Co.'s No. 4 Miller, Sec. 7-9s-5w. T.D. 8,911 ft.; abd.
Union Sulphur Co.'s No. 2 Norton, Sec. 12-9s-6w. Drlg. 1,520 ft.
Union Sulphur Co.'s No. 1 Trimble, Sec. 7-9s-5w. Drlg. sh. 7,220 ft.
Woodlawn Oil Corp.'s No. 1 Hebert, Sec. 1-9s-6w. T.D. 9,543 ft.; 7-in. csg. 9,170 ft.; perf. csg. 9,189-93 ft.; flwd. S.W. and dist.; well flwd. 100% S.W.; plld. tbg.; set cmt. retainer at 9,175 ft.; sqzd. perf.; reperf. csg.; flwg. gas and dist.

S. LOUISIANA WILDCATS

Acadia Parish

Tri Parish Drillers, Inc.'s No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Assumption Parish

Falcon-Seaboard Drlg. Co.'s No. 1 Alex Simoneaux, Sec. 43-12s-13e. R.U.

Beauregard Parish

Atlantic Ref. Co.'s No. 1 Lutcher Moore Lbr. Co., Sec. 13-5s-12w. Drlg. sh. 5,959 ft.
Atlantic Ref. Co.'s No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.
Atlantic Ref. Co.'s No. 1 D. A. Whitmer, Sec. 26-3s-11w. Drlg. 335 ft.

Calcasieu Parish

E. W. K. Andreau et al's No. 1 W. W. Blackman, Sec. 20-9s-6w. Drlg. sh. 1,368 ft.
C. L. Arnette's No. 1 Arthur Welch, Sec. 19-10s-12w. 10¾-in. csg. 130 ft.; T.D. 395 ft.; S.D.

Cameron Parish

Phillips Pet. Co.'s No. 1 Miami Corp., Sec. 11-14s-6w. T.D. 10,195 ft.; well tried to blow out; stuck D.S.
Superior Oil Co.'s No. 1 State, Calcasieu Lake, Twp. 14s-9w. Driving piling.

Iberia Parish

Plymouth Oil Co. et al's No. 1 Lynch McHugh, Sec. 13-12s-10e. 10¾-in. csg 2,519 ft.; S.D. 9,032 ft.

Jeff Davis Parish

Continental Oil Co.'s No. 1 Niblett, Sec. 1-11s-5w. 13⅜-in. csg. 2,085 ft.; drlg. sh. 9,172 ft.
H. M. Naylor's No. 1 Acadia Dev. Co., Sec. 12-10s-2w. Loc.

Jefferson Parish

Vendome Pet. Co.'s No. 1 Coulon, Sec. 15-15s-23e. Canal comp.

La Fourche Parish

Gulf Oil Corp.'s No. 1-B Bowie Lbr. Co., Sec. 69-15s-19e. Bldg. rd.

Humble O. & R. Co.'s No. 1 Caldwell Sugars, Inc., Sec. 115-14s-15e. Drk.
Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. T.D. 11,850 ft.; P.B. T.D. 11,810 ft.; perf. csg. 11,780-11,800 ft.; rec. 30 ft. of dist. 400 ft. drlg. mud; P.B. 11,325 ft.; perf. csg. 11,290-11,305 ft.; rec. S.W.; perf. csg. 11,270-80 ft.; 85 stands oil and S.W.; perf. csg. 8,908-18 ft.; rec. 2 joints dist.; squeezed perf.

Orleans Parish

W. T. Burton's No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 10,394 ft.; 5½-in. csg. 10,274 ft.; S.D.
W. T. Burton's No. 2 State, Lake Pontchartrain, Twp. 10s-13e. Drlg. sh. 6,000 ft.; no report.

Plaquemines Parish

California Co.'s No. 1 Delta Minerals, Sec. 2-15s-24e. M.I.M.
Gulf Oil Corp.'s No. 1-D Buras Lv. Dist., Sec. 6-23s-31e. 9⅝-in. csg. 8,204 ft.; T.D. 10,103 ft.; 7-in. csg. 10,103 ft.; hole heaved.

Rapides Parish

S. W. Richardson's No. 1 Hillyer-Edwards, Sec. 21-1s-3w. 10¾-in. csg. 1,565 ft.; drlg. sh. 2,793 ft.
Smith & Aarnes' No. 1 Eota Realty Co., Sec. 12-4n-3e. Drk.

St. Bernard Parish

Gulf Ref. Co.'s No. 4 State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; drlg. 10,552 ft.

St. Charles Parish

R. H. Parker et al's No. 1 C. L. Thompson, Sec. 87-13s-20e. Drk.

St. Landry Parish

Pure Oil Co. et al's No. 1 E. M. Boagni, Sec. 41-6s-4e. 10¾-in. csg. 1,276 ft.; drlg. sh. 7,907 ft.

St. Martin Parish

Wm. Helis' No. 1 Rycade Oil Co., Sec. 33-9s-7e. T.D. 8,899 ft.; sdtrkd. 7,393 ft.; drlg. sh. 8,123 ft.
Wm. Helis' No. 1 J. J. St. Martin, Sec. 32-9s-7e. T.D. 1,181 ft.; abd.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.
Texas Co.'s No. 1 State, Cote Blanche, Twp. 16s-7e. Drlg. sh. 2,236 ft.

Terrebonne Parish

Barnsdall Oil Co.'s No. 1 Nelson, Sec. 2-21s-11e. 10¾-in. csg. 2,767 ft.; drlg. sh. 10,865 ft.
Texas Co.'s No. 4 State, Coon Point, in Lake Caillou, Twp. 23s-14e. R.U.

Vermilion Parish

La. Ld. & Explrn Co.'s No. 1 Walter White hrs., Sec. 17-15s-1e. R.U.
Texas Co.'s No. 1 Vermilion Par. Sch. Bd., Sec. 16-13s-4e. T.D. 9,923 ft.; 7⅝ in. csg. 9,918 ft.; T.D. 10,595 ft.; P.B. 10,250 ft.; sdtrkd. 10,300 ft.; cd. S.W. sd. 10,659-79 ft.; drlg. sh. 10,801 ft.

TEXAS

Week Ended February 3

GULF COAST FIELDS

Anchor—Brazoria County

Humble O. & R. Co.'s No. 1 R. H. Carr, Blk. 62; 9⅝-in. csg. 6,950 ft.
Humble O. & R. Co.'s No. 1 Crockett, J. de Jesus Valderas Sur. 13⅜-in. csg.; drlg. sh. 4,510 ft.
Humble O. & R. Co.'s No. 1 Galaznik & Taylor, J. de Jesus Valderas Sur. 9⅝-in. csg. 6,953 ft.; drlg. sh. 9,698 ft.
Glenn McCarthy's No. 1 Galaznik, Valderas Sur. Drlg. sh. 7,530 ft.
Glenn McCarthy's No. 1 Neidringhaus, J. Bradley Sur. 13⅜-in. csg. 926 ft.; drlg. sh. 6,270 ft.
Glenn McCarthy's No. 1 Ida M. Salmon and John Muma, Geo. Robinson Sur. 9⅝-in. csg. 6,860 ft.; T. Frio 8,820 ft.; T.D. 10,756 ft.; perf. csg. 9,820-24 ft.; flwg. 5 bbl. dist. per hr.; 21/64-in. bttm.-hole ck.; ¼-in. ck. on top; flwd. gas and dist.; killed well; set retainer at 9,374 ft.; drlg. out retainer.

Old Ocean—Brazoria County

Harrison & Abercrombie's No. 8 Armstrong, Polly & Chance Sur. Drlg. sd. & sh. 6,870 ft.
Harrison & Abercrombie's No. 7 Bernard River Ld. Dev. Co., C. Breen Sur. Drlg. sh. 9,730 ft.
Harrison Abercrombie's No. 3 Larsen, C. Breen Sur. Drlg. sd.&L. 8,853 ft.
Stanolind O. & G. Co.'s No. 1 Giles, C Breen Sur. 9⅝-in. csg. 7,047 ft.; T.D. 10,600 ft.; perf. csg. 10,077-10,117 ft.; I.P. 601 B.P.D., ¼-in. ck.
Sun Oil Co.'s No. 4 McCampbell, C. Breen Sur. 13⅜-in. csg. 1,505 ft.; 9⅝-in. csg. 7,010 ft.

Seabreeze—Chambers County

Sun Oil Co.'s No. 1 Samuelson & Whitney, T.&N.O. Sur. 131. Drlg. sh. 6,676 ft.

Garwood—Colorado County

Davis & Co., Inc., No. 1 J. R. McLane. I.&G.N. Sur. 41. T.D. 10,536 ft.; set 814 ft. of 5-in. lnr. on bttm.; perf. csg. 10,330-62 ft., 10,394-10,410 ft.; would not flow; reperf. csg. 9,958-84 ft.; swbd. S.W., trace of gas; sqzd. perf.; W.O.C.

Big Creek—Fort Bend County

Merrimac Oil Corp.'s No. 1 George, B. Wickson Sur. (SW. Flank). Spd. and S.D.

Rosenberg—Fort Bend County

Humble O. & R. Co.'s No. 1 Skripka, C. N. Simpson Sur. Cg. 7,727 ft.

Caplen—Galveston County

Sun Oil Co.'s No. 1-26 State, S. F. Hughes Sur. Drlg. sh. 3,396 ft.
Sun Oil Co.'s No. 2-26 State, S. F. Hughes Sur. Loc.
Sun Oil Co.'s No. 3 Zinn-Forman Sur. Loc.

League City—Galveston County

Phillips Pet. Co. No. 1 Dr. O. Patton (1 mi. E of production). Perf. csg. 9,177-97 ft.; flwd. S.W.; sqzd. perf.; C.O.
Phillips Pet. Co.'s No. 2 J. S. Rice est. J. M. Perry & Austin Sur. T.D. 11,411 ft.; fsg.
Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. 10¾-in. csg. 3,520 ft.; 7⅝-in. csg. 9,510 ft.; T.D. 11,270 ft.; well blew out; running wild, making gas and dist.; well brought under control; flwg. gas, dist., and S.W.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 30-C Humble-

West, Wm. Doble Sur. T.D. 5,909 ft.; W.O.C.
Humble O. & R. Co.'s No. 32-C Humble-West. Cg. sh. 5,906 ft.

Beamel—Harris County

H. M. Harrell's No. 1 Graves, C. Walters Sur. Spd.

Friendswood—Harris County

Humble O. & R. Co.'s No. 39 Beamer, T. Choate Sur. T.D. 6,050 ft.; W.O.C.
Humble O. & R. Co.'s No. 15 Keisling, T. Choate Sur. T.D. 6,040 ft.; W.O.C.

Lovells Lake—Jefferson County

Humble O. & R. Co.'s No. 4-B Steinhagen, Wm. Carr Sur. Drlg. sh. 5,690 ft.
Humble O. & R. Co.'s No. 4 Todd, Wm. Carr Sur. Drlg. sd.&sh. 6,540 ft.
Humble O. & R. Co.'s No. 3-B Steinhagen, A. O. Donnell Sur. 9⅝-in. csg. 1,153 ft.; T.D. 7,816 ft.; P.B. 7,725 ft.
Shell Oil Co., Inc.'s No. 1 Nelson, Wm. Rice Sur. Drlg. 4,520 ft.

South China—Jefferson County

Magnolia Pet. Co.'s No. 1 B. E. Quinn, H.T.&B. Sur. 13. R.U.
Titanic Oil Co.'s No. 1-B Guiterman, C. T. Taylor Sur. 12. T.D. 7,570 ft.; W.O.C.

Espersen—Liberty County

General Crude Oil Co.'s No. 9 Davis, D Kokernot Sur. T.D. 8,314 ft.; well blew out, caught fire, cratered.
General Crude Oil Co.'s No. 7-B Esperson, A. McNeil Sur. T.D. 7,860 ft.; P.B and sdtrkd.; T.D. 7,660 ft.; sdtrkd.; T.D. 7,523 ft.; W.O.C.

Hull—Liberty County

Gulf Oil Corp.'s No. 115 Phoenix Dev. Co., J. Devore Lge. (SE flank deep test). 9⅝-in. csg. 5,904 ft.; T. salt 8,113 ft.; T.D. 8,164 ft., salt.

Martha—Liberty County

Stanolind O. & G. Co.'s No. 2 Flowers, I.&G.N.R.R. Sur. Drk.
Stanolind O. & G. Co.'s No. 1 J. D. Ross, I.&G.N. Sur. 7. Drlg. sh.&L. 3,280 ft.

Segno—Polk County

J. K. Dorrance's No. 5-A Wing, I.&G.N. Sur. 15. Drlg. sh. 6,212 ft.
Gulf Oil Corp.'s No. 4 Quinn, A. Morales Sur. R.U.
Gulf Oil Corp.'s No. 28 Wing, I.&G.N. Sur. 15. Drlg. sh.&L. 5,630 ft.
Jordan Drlg. Co.'s No. 2-A Hughes, I.&G.N. Sur. 13. R.U.

Spurger—Tyler County

Republic Prod. Co.'s No. 32 fee, N. Hurd Sur. Drlg. sh. 6,170 ft.
Republic Prod. Co.'s No. 33 fee, N. Hurd Sur. R.U.

Hilje—Wharton County

Texas Co.'s No. 2 Peters, E.T.R.R. Sur., Sec. 101. Loc.

GULF COAST WILDCATS

Brazoria County

Fabriquze et al's No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Hamman Expltn. Co.'s No. 1-B Darrington State Prison Farm, F. Bingham Sur. Loc.
D. M. Hill's No. 1 Max Bader, Wm Smeathers Lge. Loc.
Glenn McCarthy's No. 1 E. W. K. Andrau, H.T.&B. Sur. 5. 10¾-in. csg. 3,512 ft.; T.D. 10,591 ft.; W.O.C.
Glenn McCarthy's No. 2 Houston Farm Dev. Co., J. Perry & E. Austin Sur. 7 10¾-in. csg. 3,492 ft.; cg. sh. & sd. 10,558 ft.
S.E.W. Oil Co.'s No. 1 C. D. Van Werdon, A.C.H.&B. Sur. 87. R.U.
Titanic Oil Co.'s No. 2 S. E. Allen, J. G. and W. McNeil Sur. R.U.
Titanic Oil Co.'s No. 1 T. J. Poole. T.&W. Alley Lge. R.U.

Chambers County

Geo. Anderson et al's No. 1 Veruna Lawrence, W. D. Smith Sur. T.D. 7,215 ft., S.W. sd.; taking sidewall cores.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferrs, H. Chrisman Sur. Loc.

Fort Bend County

Fred Browning's No. 1 Kroescher, W. Bartlett Sur. 10¾-in. csg. 1,128 ft.; T. D. 8,011 ft.; 7-in. csg. 8,195 ft.; sd. 8,126-29 ft.; perf. csg. 8,181-85 ft.; flwg. flwd. gas and S.W.; perf. csg. 7,713-34 ft.; flowed 50 bbl. dist.; P.D. ½-in. ck.
H. C. Cockburn's No. 1 G. W. Burkett Bundleck Sur. Loc.
Magnolia Pet. Co.'s No. 1 G. H. Huntington, Henry Scott Sur. T. Ckfld. 7,556-60 ft.; T.D. 8,698 ft.; perf. lnr. 8,662-72 ft.; rec. S.W.; perf. csg. 8,246-50 ft.; flwg. 2 bbl. dist. per hr.; 9/64-in. ck.; press. dropped; reperf. csg. 8,248-54 ft.; flwg. dist.; flwd. 17 bbl. dist.; ⅞-in. ck.; T.P. 175 lb.; C.P. 575 lb.; reperf. csg. 8,179-84 ft.; I.P. 22 bbl. dist. per day; ¼-in. ck.; perf. csg. 8,035-42 ft.; flowed dist. and S.W.; abd.
Temple Hargrove et al's No. 1 Sugar Ld. Ind., A. Alcorn Sur. Spd.

Galveston County

Continental Oil Co.'s No. 1 Lobit-Cherardi, Perry & Austin Sur. T.D. 9,839 ft.; prep. to sdtrk.
Standard Oil Co.'s No. 1 State, Sec. 234 10¾-in. csg. 2,001 ft.; drlg. 2,630 ft.
Sun Oil Co.'s No. 1 State, Sec. 178. Dredge canal; driving piling.

Harris County

T. A. Carlton Oil Co.'s No. 1 J. J. Sweeney, G. W. Eaton Sur. Drlg. sh. 5,349 ft.
Cities Service Oil Co.'s No. 1 Perry V. Cook, Wm. Slayer Sur., Sec. 60. Drlg. 4,890 ft.
Gulf Oil Corp.'s No. 1 H. H. Roberts, A. Roberts Sur. T.D. 7,583 ft., S.D.
N. W. Hunter et al's No. 1 Green's Bayou Homesites, S. C. Hiroms Sur. 10¾-in. csg. 810 ft.; S.D. 4,350 ft.
Martin Thompson's No. 1 Kate Fuchs. J. Boswell Sur. 10¾-in. csg. 802 ft. Drlg. sh. 6,004 ft.

Jackson County

H. J. Porter's No. 1 D. W. Hill, James Kerr Sur. R.U.

Jefferson County

Fidelity O. & Roy Co.'s No. 1 J. J. Craigen, J. E. Broussard Sur. R.U.
Merrimac Oil Corp.'s No. 1 State, Tr. 72, 50 ft. due E of Harwell's abd. hole W.O.; R.U.

Liberty County

Hebert & Smith's No. 1 W. E. Boyt, H. &T.C.R.R. Sur. Drlg. sh. 7,485 ft.

Matagorda County

Gulf Stream Oil Co.'s No. 1 G. W. Zipprian, Lake Lessassier Sur. S.D. 4,060 ft.
Providence Oil Corp.'s No. 1 E. Strawbridge, J. W. E. Wallace Sur. 10¾-in. csg. 1,230 ft.
Texas Gulf Prod. Co.'s No. 1 Gulf Tex. Oil Co., Ira Ingram Sur. Drk.
Van M. Vincent's No. 1 J. F. McNabb Est., E. R. Wightman Lge. Loc.

Montgomery County

H. C. Cockburn et al's No. 1 Bender, Montgomery Co. Sch. Ld.and De Crow Sur. Loc.
Continental Oil Co.'s No. 1 Bender est., Montgomery Co. Sch. Ld. Sur. 13⅜-in. csg. 1,243 ft.; drlg. sh. 3,800 ft.
David B. MacDaniel's No. 1 Hattie O. Baldwin, Walker Co. Sch. Ld. Sur. 10¾-in. csg. 1,230 ft.; T.D. 8,900 ft., est.; D.S. stk.
Dick Schwab et al's No. 1 Foster est., De La Garza Sur. M.I.M.
Sturm & Womack's No. 2 Foster est. Abraham Pevehouse Sur. T.D. 7,265 ft.; S.D.
West Conroe Oil Corp.'s No. 1 R. L. Calfee, H. N. McDillon Sur. S.D. 5,017 ft. ft.; tstd. S.W. 4,516-78 ft.

San Jacinto County

Harrison & Abercrombie's No. 1 Lockin, Wm. Hays Sur. S.D. 8,538 ft.

Waller County

Cities Service Oil Co.'s No. 1 P. V. Cook, H.&T.C. Sur. 60. Spd.
Hunter & Mayos et al's No. 1 Humble fee, Wm. Hooper Sur. Drlg. sh. 6,000 ft.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. S.D. 4,510 ft.

Wharton County

H. C. Cockburn et al's No. 1 F. T. Reitz, E.T.R.R. Sur., Sec. 59. R.U.
O. C. Garvey's No. 1 T. N. Menefee, S. P. Middleton Sur. Drk.
O. C. Garvey et al's No. 1 Stockton, S. P. Middleton Sur. R.U.
Sam Harrison's No. 1 Nell Carlson, Morris & Cummins Sur, Drk.
J. F. Hutchins' No. 2 Borden, E. M. Cox Sur. A-14. T.D. 5,500 ft.; 5½-in. csg. 4,840 ft.; perf. csg. 4,758-71 ft.; flwd. gas and dist.; no ga.
Magnolia Pet. Co.'s No. 1 C. Swanson, E.T.R.R. 39. Loc.
Dr. T. M. Neal No. 1 fee, Elisha Flack 4,840 ft.
Strake Pet. Corp.'s No. 1 Poole, Sec. 25, G.H.&H. Sur. M.I.M.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 1 St. Charles Co., R. D. Blassman Sur. 18⅝-in. csg. 290 ft.; T.D. 9,335 ft.; well blew out; caught fire.

Atascosa County

John Durst's No. 1 Wright, Edw. Morris Sur. Loc.
Red Bank Oil Co. et al's No. 1 J. P. Pratt, Francisco de La Garza Sur. 46. T.D. 2,386 ft.; 7-in. csg. 2,347 ft.; acidized; swbd. acid wtr,; slight show oil.

Bastrop County

C. R. Franklin's No. 1 Oscar McDonald, Martha Barker Sur. Drlg. 1,568 ft.

Bee County

Bunte Bros., Inc.'s No. 1 J. T. Earnest, Bee Co. Sch. Ld. Sur. Spudded.
Mills Bennett Prod. Co. and Anderson-Prichard Oil Co.'s No. 2 Robinson, J. M. Uranga Sur. (Wlx. test, West Tuleta field); 13⅜-in. csg. 2,537 ft.; drlg. 3,140 ft.
Union Prod. Co.'s No. 56 Ray, T. Hanson Sur. (Pettus field); Wlx. test; drlg. sh. 3,064 ft.

Bell County

G. P. Shelton et al's No. 1 Nelson, Michael Griffin Sur. S.D. 1,206 ft.

Bexar County

L. Beauchamp et al's No. 1 J. J. Brown R. F. Shield Sur. 19. Loc. abd.
Heller Pet. Co.'s No. 1 Wildmann, Juan Sanchez Sur. 34. S.D. 448 ft.
Joe Noake's No. 1 San Antonio Sub. Irrg. Farm, W. Miller Sur. 180. S.D. 250 ft.
Philtop O. & G. Co.'s No. 1-A Cassin, Fernando Rodriquez Sur. S.D. 2,124 ft.
J. A. Tarver's No. 1 Florence Lam, Manuel de Luna Sur. 3. 6⅝-in. csg 1,205 ft.; T.D. 1,692 ft.; cd. bkn. sh. 1,638-92 ft.; S.S.O.; bailed est. 10 bbl. oil P.D. before sanding up; S.D.
J. A. Tarver et al's No. 1 Joseph Leonard, Manuel de Luna Sur. 3. R.U.

Blanco County

E. L. Nixon's No. 3 Crist, John McClenechen Sur. 94. S.D. 1,230 ft.

Burleson County

H. Y. Barnett's No. 1 Giesenschlag, J W. Hollingsworth Sur. Cg. sh. & shells 1,283 ft.

Caldwell County

Kean & Williamson's No. 1 E. E. Rector, J. Roberts Sur. Drlg. 730 ft.

Calhoun County

Coronado Corp. No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. "Tight well"; reported to be tstg.; 5½-in. csg. 9,750 ft.; perf. csg. 9,500-9,600-9,700 ft.; rec. S.W.; sqzd. perf.; no information available.

De Witt County

Atlantic Ref. Co.'s No. 1 Pearl Conwell, Chas. Lockhart Sur. Drlg. sh. 5,985 ft.
I. K. Howeth et al's No. 1 Keepers, Antonio Lazo Sur. R.U.

Duval County

Alaska-Tex Oil Corp.'s No. 1 W. P. Peters, B.S.&F. Sur. 791. Cg. 2,612 ft.
J. B. Blanchard et al's No. 1 W. L. Rogers, J. Poitevent Sur. Loc.
J. B. Blanchard et al's No. 1 J. Ruiz, G. Ruiz Sur., Sec. 136. T.D. 4,516 ft.; abd.
W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. 73. R.U.
Hiawatha O. & G. Co.'s No. 1-A Herberger, Santos Flores gr. T.D. 5,875 ft.; 7-in. csg. 5,873 ft.; perf. csg. 5,864-72 ft.; flowing dist.
Landreth Prod. Co.'s No. 1 Caballero, J. Poitevent Sur. 281. R.U.
H. D. Rogers' No. 1 Rossen, R. F. Neeley Sur. 48. S.D. 1,200 ft.

Falls County

J. Shaunfield's No. 1 Barganier, J. M. Graham Sur. Bda. L.; S.S.O.; T.D. 1,188 ft.; recmtd. csg.; W.O.; cmt. failed to hold.

Frio County

Holland Oil Co.'s No. 1 Anna Witting, Dan T. Price Sur. S.D. 4,460 ft.

Guadalupe County

Diamond Half Oil Corp.'s No. 1 W. J. Strey, Josefan de los Cortinos Sur. 49. Drlg. 40 ft.
A. J. Hollifield's No. 1 A. J. Day, Jas. Hinds Sur. T.D. 2,837 ft.; 7-in. csg. 2,357 ft.; P.B. 2,692 ft.; swbd. sulf. wtr., S.S.O.; P.B. 2,415 ft.; flowing oil by heads.
Knute Evjen et al's No. 1 W. C. Brawner, J. D. Pickens Sur. S.D. 2,394 ft. 5½-in. csg. 2,300 ft.; reacd.
F. D. Spratt's No. 1 Wm. Zuchl, Claiborne Rector Sur. 38. S.D. 710 ft.

Hidalgo County

Brinkocter Oil Co.'s No. 1 Daskam hrs. of Miguel Cano, Porc. 45. Drlg. 3,218 ft.
Gulf State Oil Co.'s No. 2 Cardinas, San Salvador del Tule gr. 16-in. csg. 157 ft. drlg. sh. 6,560 ft.
Humble O. & R. Co.'s No. 1 T. A. Ore Rio Bravo subd. Drlg. sdy. sh.&L. 7,236 ft.

Jim Hogg County

Daubert & Achning's No. 1 A. Vela, Joseph Odom Sur. 572. Drlg. sh. 2,319 ft.
DeLange & Rowe's No. 1 R. A. Walters, Casa Blanca gr. Loc.
Goldruss Drlg. Co.'s No. 2 Gutierrez, Tyler Tap R.R. Sur. 163. T.D. 3,855 ft. R.U. to deepen.
Humble O. & R. Co.'s No. 2 C. F. Mestena O. & G. Co., C.&M.R.R. Sur. Sec. 389. Drlg. sh. 1,960 ft.
C. A. Nibert et al's No. 1, Yeager Sur. 20. S.D. 1,316 ft.
Republic Nat. Gas Co.'s No. 1 Robt. Adams, G.H.&H.R.R. Sur. 103. T.D. 5,308 ft.; abd.

Jim Wells County

Arkansas Fuel Oil Co.'s No. 1 Brand, George Reynolds Sur. 38. Drlg. 1,550 ft.
Austin Pet. Co. No. 1 H. M. Reed (8 mi. NW Orange Grove), J. Poitevent Sur. Cmtd. surf. pipe 190 ft.; S.D. 210 ft.; abd.; skd. rig 100 ft. N.; R.U.&S.D.
DeLange & Rowe's No. 1 R. A. Wolters, Casa Blanca gr. T.D. 5,543 ft.; abd.
Henshaw Bros. et al's No. 1 San Miguel, S.K.&K. Sur., Sec. 219. T.D. 6,020 ft.; abd.
Reese & Dunn et al's No. 1 G. M. de Perez, Le Tinaja de Lara gr. R.U.
Reese, Dunn & Tsesmelis No. 1 Perez, Manuel Barrera gt. R.U.
R. K. Taylor's No. 1 M. H. Reed, J. Poitevent Sur. Drlg. sh. 4,060 ft.
Gus Tsesmelis et al's No. 1 Garcia hrs., La Anima Sola gr. R.U.

Karnes County

Clyde Eckols' No. 1 J. M. Newberry, Carlos Martinez Sur. T.D. 3,002 ft.; 5½-in. csg. 3,002 ft.; perf. csg. 2,942-48 ft.; tstg. gas and some oil.

Kendall County

C. M. Dewey's No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 835 ft.

Kinney County

Cooper Gas Co.'s No. 1 L. L. Farr, Geo. L. Bledsoe Sur. 835. R.U.

Kleberg County

Humble O. & R. Co.'s No. 1 O. J. Mork, Rincon de Santa Gertrudis gr. Drlg sh. 4,485 ft.
Skelly Oil Co.'s No. 1 State, Laguna de Los Olmos gr., Tr. 385. Driving piling.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. T. Glen Rose L. 6,600 ft.; drlg. L. 7,340 ft.

Live Oak County

H. F. Baker's No. 1 Herring, Stephen Hays Sur. S.D. 1,450 ft.
E. M. Jones' No. 1 West, Lot 400, Blk. D, of West subd. Drlg. 550 ft.
Moore Dev. Co.'s No. 1 fee, R. W. Fant Sur. 238. Cg. 2,063 ft.
L. W. Stieren's No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Cities Service Oil Co. and Continental Oil Co.'s No. 2-B Lowe, A. J. Martin Sur. T.D. 1,612 ft.
F. H. Gohlke's No. 3 Miles, Wm. Kohfler Sur. 78. Drlg. 568 ft.
W. C. McBride, Inc.'s No. 2 Nueces Ld. & Lvstk. Co., E. W. Gemmel Sur. 91. T.D. 1,751 ft.; abd.
Roger Putnam's No. 1 Lucy Claunch, M. Hely Sur. 5. 10-in. csg. 200 ft.; S.D. 1,321 ft.
C. D. Scarborough No. 1 First Natl. Bk. of Rossbud, Jas. Garner Sur. S.D. 1,680 ft.

Medina County

T. J. Tapp's No. 1 Bendele, F. Sauer Sur. 117. S.D. 205 ft.
York Pet Co.'s No. 1 Kate Smith, Marie Ihnken Sur. 11. T.D. 948 ft.; P.B. 580 ft.

Milam County

Fritz Fuchs' No. 1 Unnaseh, Jose Justo Liendo Sur. S.D. 1,080 ft.

Nueces County

John Manley et al's No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.
H. J. Porter et al's No. 1 A. R. Knetig, DeLores A. & I. Co. Sur. 145. 10¾-in. csg. 508 ft.; T.D. 6,515 ft.; abd.
Southern Minerals Corp.'s No. 1 J. S. Jolly, M. L. de Herrera gr., Sec. 29. T.D. 6,103 ft.; abd.

Refugio County

C. L. Norsworthy's No. 1 B. J. Fox, Jas. Fagan Sur. 20-min. D.S.T. 4,729-37 ft.; rec. 360 ft. oily mud; 540 ft. S.W.; S.D. 6,715 ft.; 5½-in. csg. 5,950 ft.; perf. csg. 5,895-98 ft.; rec. 1,620 ft. oil on D.S.T.; run screen.
Norsworthy Prod. Co.'s No. 1 Wood, John Sinnott Sur. T.D. 6,508 ft. (cor.); S.D.

San Patricio County

Fred Wood et al's No. 1 C. E. Hart, Wm. G. Burgess Sur. Drlg sh. 6,330 ft.

Starr County

Clopton, Mitchell et al's No. 1 F. W. Seabury, J. A. Falcon, Porc. 80. 8¼-in csg. 88 ft.; T.D. 2,757 ft.; S.D.; S.W. sd.; 5½-in. csg. 1,401 ft.; perf. csg. 1, 328-33 ft.; tstg.; flwg. small amt. of oil per day.
C. L. Foster's No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D. 100 ft.
Interstate Minerals, Inc.'s No. 1 Green & Manning, J. J. Garza Falcon Porc. 81. T.D. 1,732 ft.; 7-in. csg. 1,155 ft.; S.D. 1,740 ft.
Lynes & Robertson's No. 1 Villareal, C. C.S.D.&R.G.N.G.R.R. Sur. 241. Loc.
Sun Oil Co.'s No. 1 Rodriguez, Santa Teresa gr. Cg. 5,239 ft.

Travis County

J. H. Gray's No. 1 Washington, Jose Antonio Navarro Sur. S.D. 1,703 ft.; abd.

Val Verde County

Joiner Oil Co. et al's No. 1 Clyde Sellers. Drlg. bkn. L. 1,480 ft.; no report.

LEGAL

DEPARTMENT OF THE INTERIOR, Bureau of Mines Helium Plant, Amarillo, Texas.—Sealed bids will be received until 2:00 p.m. C.S.T. March 7, 1940, covering the sale of the following Government property: One Worthington-Laidlow Gas Compressor—3 stage, 16½" x 10" x 5" x 10" stroke; 180 R.P.M.; cap. 31,200 cu. ft./hr. free air from atm. to 600 lb. pres.; direct-connected to a 210-H.P. Syn. motor, 2300 volt—60 cycle—3 phase; used very little; inspection invited; location, Central Depot, Bureau of Air Commerce, Fort Worth, Texas. One Norwalk Twin-Duplex Gas Compressor—3 stage air end, 16" x 10½" x 4½" x 24" stroke; direct steam-drive of Corliss type; steam cyl. dia., 29"; cap 1174 cu. ft./min. free air atm. to 1200 lb. pres.; 110 R.P.M.; steam pres. 125 lb.; condition unknown; inspection advisable; location Lone Star Compressor station, Petrolia, Tex. For details and bid forms address Bureau of Mines, P. O. Box 2250, Amarillo, Texas.

Victoria County

W. S. Boyle's No. 1 P. C. Meyer, Victoria townsite Sur., Blk. 3. T.D. 4,786 ft.; perf. csg. 4,776-79 ft.; pmpd. 68 bbl., 21 hrs.; started to show mud and S.W.

Colton & Colton's No. 1 W. C. Buckholtz, F. G. Hidalgo Sur., Lot 27. 10¾-in. csg. 710 ft.; cg. 2,796 ft.

Mayo and Renwar Oil Co.'s No. 1 Bayer, Garcia Sur. T.D. 6,485 ft.; W.O.C.

Mayo, Thompson Drlg. Co.'s No. 1 Ragsdale, V. Garcia Sur. Drlg. sh. 5,225 ft.

L. L. Smith's No. 1 Carolina Stubbs est., R. Manchola Sur. T.D. 4,775 ft.

Webb County

G. W. Bascom's No. 1 Geo. Adami, H.& G.N.R.R. Sur. 333. T.D. 1,344 ft.; S.D.

O. W. Killam's No. 64 Bruni, M. H. Rodriquez Sur. 446. T.D. 1,879 ft.; 5½-in. csg. 1,830 ft.; perf. csg. 1,802-06 ft.; flowing 5 bbl. fluid P.D.

Sinclair Prairie Oil Co.'s No. 1 Callaghan Ld. & Cattle Co., B.S.&F. Sur. 585. M.I.M.

Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Arispe gr. (deep test Bruni field). T.D. 8,959 ft.; well blew out; hole bridged; stk. D.S.; prep. to P.B. and test approx. 5,600 ft.; perf. D.P. 5,636-45 ft. and 5,621-31 ft.; tstd. dry: sqzd. off; perf. csg. 5,620-30 ft.; flowing 1 bbl. fluid P.D., some brackish water.

Williamson County

H. C. Lefors' No. 1 H. J. Priesmeyer, Jehu Bevil Sur. 56. S.D. 1,107 ft.

Wilson County

Henshaw Bros.' No. 1 E. W. Schneider, Don Casper Flores Sur. 10-in. csg. 99 ft.; drlg. 1,130 ft.

W. D. Moore et al's No. 1 Lorenz, Morris May Sur. S.D. 75 ft.

E. E. Young's No. 1 O. D. McMeans, C. W. Parrott Sur. R.U.

Zapata County

Graham & Neilson et al's No. 1 Guerra, B.S.&F. Sur 161. Drlg. sh. 1,821 ft.

J. P. Martin et al's No. 1 Serapio Vela, El Grullo gr. T.D. 3,108 ft.; sdtrk. drlg. 2,971 ft.

Ralph Ogden's No. 1 Dodier, El Socorro gr., Sh. 4. S.D. 2,274 ft.; abd.

WEST TEXAS WILDCATS

Andrews County

Richmond Drlg. Co. and T. F. Hunter's No. 1 University, 660 ft. N and E lines of Sec. 21, Blk. 11, University Sur. W.O.C. 1,600 ft.

Crane County

Gulf Oil Corp.'s No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. 5,-907 ft.

Gulf Oil Corp.'s No. 1-K University, 330 ft. N and E lines, Sec. 2, Blk. 31, University Sur. Bldg. road.

Gulf Oil Corp.'s No. 12 Waddell, Sec. 30, Blk. 26-B, P.S.L. Sur. 12-in. 532 ft. S.O. 3,215-20 ft.; S.S.G. 3,635 ft.; rmg. 10-in. hole 3,480 ft.; T.D. 3,670 ft.

Crockett County

Continental Oil Co.'s No. 1-B Todd unit, SW¼ Sec. 30, Blk. W.X., C.G.&S.F. Sur.; Ordovician test. Topped Simp. at 6,040 ft.; sul. wtr. at T.D. 7,010 ft.; P.B. to 6,620 ft.; P.B. 6,336 ft.; making 2 to 3 B.O.P.H.; swbg. and tstg.

Continental Oil Co.'s No. 2 Todd, 1,980 ft. S and W lines of Sec. 29, Blk. W. X, G.C.&S.F. Sur. Skd. rig W and prep. spd.

Moore Bros.' No. 1 Henderson, Sec. 51, Blk. OP., G.C.&S.F. Sur. Fsg. bailer 812 ft.

Stanolind O. & G. Co.'s No. 5 Todd-A, 990 ft. from S line, 330 ft. from W line, Sec. 67, Blk. UV, G.C.&S.F. Sur. Prep. treat 1,368-85 ft.; S.S.G.&O. 1,-375-85 ft.; est. 30 B.O.P.D.

Ector County

M. A. Grisham et al's No. 1 R. B. Cowden, 600 ft. from N and E lines, Sec. 4, Blk. 45, Twp. 1n (deep test), T.&P. R.R. Sur. Drlg. 770 ft.

I. T. I. O. Co.'s No. 1 Johnson, Sec. 34, Blk. 43, Twp. 1s, T.&P. Sur. Heading 170 B.O.P.D. while drlg. below 4,150 ft.; S.I. 4,171 ft.; est. 200 B.O.P.D. through csg.

Landreth Prod. Corp. and Shell Oil Co., Inc.'s No. 1 J. L. Johnson, Sec. 43 Blk. 43, Twp. 1s, T.&P. Sur. Swbd. 21 B.O. 14 hrs. after acd. at 4,264-76 ft.; test est. 800 ft. O.I.H.; R.U.R. to D.D. to Holt pay.

Stanolind O. & G. Co.'s No. 1 W. F. Cowden, SW¼ Sec. 4, Blk. 43, Twp. 1n, T.&P. Sur.; deep-lime test. T. Yates sd. 2,790 ft.; T. Clearfork 5,142 ft.; W. O.C.; 5½-in. csg. 5,200 ft.

Gaines County

Oil Well Drlg. Co.'s No. 1 R. E. Sikes Sec. 10, Blk. 25-A, P.S.L. Sur. S.D.O. 4,898-5,005 ft.

Stanolind O. & G. Co.'s No. 1 T. S. Riley, Sec. 11, Blk. H, D.&W. Sur. Shot 4,762-4,864 ft.; C.O.; bailed 1 bbl. hourly before shot; T.D. 4,864 ft.; swbd. 10 B.O. in 8 hrs.; bailed dry and bailed 10 B.W. in 9 hrs.; C.O. cavings 4,864 ft.

Hockley County

Denver Prod. & Refg. Co. and Heimerich & Payne, Inc.'s No. 1 Whiteface Farms, 660 ft. from S and E lines Labor 22, Lge. 77, Reeves C.S.L. Sur. Drlg. 1,-600 ft.

Geo. P. Livermore's No. 1 R. D. Glimp, Sec. 8, Blk. X, P.S.L. Sur. Tstg. after 3rd stage acid treatment, made 143 B.O. in 5 hrs.; S.I. 5,030 ft.; T.D.

Irion County

W. S. Kelly's No. 1 Yates, Conrad Poppe Sur. 730. S.D.O. 345 ft.

Loving County

J. E. Whitesides' No. 1 fee, Sec. 24, Blk. 76. S.D. 35 ft.

Lynn County

R. H. Gill's No. 1 W. H. May, NE¼ Sec. 259, Blk. L, B.S.&F. Sur.; Honolulu Oil Co. farmout. Loc.

Guthrie Lake Oil Co.'s No. 1 Mary L. Shoe, Sec. 20, Blk. 8, E.L.R.R. Sur.; 800-ft. test. C.O. cavings 265 ft.

H. F. Wilcox Oil & Gas Co.'s No. 1 E. L. Powell, 330 ft. from W and 990 ft. from S lines Sec. 134, Blk. 12, E.L. Sur. R.U.R.

Mitchell County

Ewing & Hanes' No. 1 G. I. Grable, Sec 195, Blk. 3, H.&G.N. Sur.; 1,800-ft. test. S.D. 30 ft.

N. V. Hilburn's No. 1 E. T. Strain, Sec. 82, Blk. 97, H.&T.C. Sur. S.D. 250 ft.

Sinclair Prairie Oil Co.'s No. 1 E. E. Erwin, Sec. 1, Blk. 5, H.&T.C. Sur. S.D. O. 3,065 ft.

Pecos County

R. L. Baker's No. 1 White & Baker, Sec. 86, Blk. 194, G.C.&S.F. Sur. Drlg. 440 ft.

Humble O. & R. Co.'s No. 1 Young, Sec 33, Blk. 10, H.&G.N. Sur. Drlg. 4,565 ft.

B. McCandless and General Crude Oil Co.'s No. 1 Virginia W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. T. Ellenburger 4,401 ft.; tstg. est. 6,000,000 cu. ft. gas after acd.; rng. tbg.; T.D. 4,479 ft. est. 4,000,000 cu. ft. gas and 365 B.O. P.D.; made 531 B.O. in 5 hrs.; S.I.

Phillips Pet. Co.'s No. 1 Sarah Byrne, Sec. 114, Blk. 11, H.&G.N. Sur.; lost hole; skd. 50 ft. N.; tight well 1,400 ft.

Sides' No. 1 Blackstone-Slaughter-Lackey, 250 ft. from S line, 1,100 ft. from W line, Sec. 20, Blk. 129, T.&S.L. Sur. Loc.

Skelly Oil Co.'s No. 1 J. S. Masterson (Ordovician test), Sec. 101, Blk. 10, H. &G.N. Sur. Drlg. 4,140 ft.

Reeves County

T.A.T. Oil Co.'s No. 1 U. G. Orenderff, Sec. 10, Blk. 59, P.S.L. Sur. C.O. cavings, 1,600 ft.

Scurry County

Coffield & Guthrie's No. 1 Reiter, Sec. 155, Blk. 97, A.T.&T.C. Sur. P.B. 2,990 ft.; prep. reshoot for 3rd time; S.D.O.

Terrell County

E. M. Thomasson's No. 1 Bates, Sec. 31, Blk. 1, H.&G.N. Sur. Drlg. 1,779 ft.

Tom Green County

Johnson's No. 2 Rape, Sec. 2, Blk. 18 H.&T.C. Sur. S.D.O. 370 ft.

B. C. Mann's No. 1 Joe Funk, 330 ft. N, 1,650 ft. E lines, Sec. 34, Blk. 5, H.& T.C. Sur. S.D.R. 125 ft.

Dan Short's No. 1 J. G. Davidson, 2,-161 ft. from SL, 2,493 ft. from NW cor. L. P. Moore Sur. S.S.O.&G. 2,660-65 ft.; S.D.O. 2,935 ft.

Ward County

Gulf Oil Corp.'s No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 3,208 ft.

Magnolia Pet. Co.'s No. 2-43 Sealy, Sec. 43, Blk. F, G.M.M.B.&A. Sur. W.O. 2,-952 ft., T.D.; making 69,000,000 cu. ft. gas; incr. amt. oil; perf. lnr. 2,990-96 ft.; P.B. 2,925 ft.; tstd. sul. wtr.; cmtd. off perf. and W.O.C.

Kenneth Slack's No. 1 Bird Hayes, Sec. 148, Blk. 34, H.&T.C. Sur. Drlg. 3,-414 ft.

Yoakum County

Osage Drlg. Co.'s No. 1 Willard, 1,980 ft. E line, 660 ft. N line, Sec. 805, Blk. D, Gibson Sur. Drlg. 4,622 ft.

Sloan & Zook and T. N. Sloan's No. 1 J. E. Fitzerald, Sec. 22, Blk. D, Gibson Sur., extreme NE cor. of county. 7-in. csg. 4,812 ft.; T.D. 5,658 ft.; prep. D.D.

TEXAS PANHANDLE

Deaf Smith County

Uscan's No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. C.O. 5,650 ft.

Lipscomb County

Phil O'Neil's No. 1 Jacob Koch, NW SW Sec. 539, T.&T.C.R.R. Sur. S.D. 1,100 ft.

Ochiltree County

James R. Macon et al's No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. T.D. 8,274 ft.; test sec. at 5,000 ft.; est. 6,000,000 cu. ft. gas on D.S.T.; tstg.; bailing 6,274 ft.; unloaded csg. at well and preparing to test increasing shows of oil and gas; S.D.W.O. 6,274 ft.

Potter County

Canadian River Gas Co.'s No. 1 City of Amarillo, in city limits just north of city. R.U.

Lee Whitaker's No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. Fish out; S.D. 915 ft., csg.

Sherman County

I. T. I. O. Co.'s No. 1 S. C. Bryant, C NW¼ Sec. 369, Blk. T-1, T.&N.O. Sur. S.D.W.O. 2,739 ft.

E. C. TEXAS WILDCATS

Anderson County

R. H. Williamson's No. 1 O. G. Rogers, Wm. Greenwood Sur., 6 mi. SW of Elkhart. S.D. 5,345 ft., T.D.; stk. pipe.

Angelina County

Ginter Bros.' No. 7 Copes hrs., J. Morin Sur., 3 mi. E of Dibol. S.D. 2,184 ft.

Cherokee County

C. C. Lanier's No. 1 W. O. Reagan, W. T. Smith Sur., 2½ mi. E of Mixon Drk.

R. D. Salisbury No. 1 W. M. Shankle, J. A. Manchaca Sur., 1½ mi. NE Chilton. P.B. 1,103 ft.; S.D.; W.O.

Falls County

A. H. Bell's No. 2 Garrett, J. Sanchez Sur., NE of Lott. R.U. pump; bailed 4 B.O.P.H.; T.D. 1,260 ft.; W.O. pmp.

Fannin County

C. Newburn's No. 1 A. G. Allen, M. Caldwell Sur., 7 mi. NE of Banham. Laying wtr. lines.

Henderson County

W. R. Manning's No. 1 Rowe & Baker, J. T. Childers Sur., 6 mi. SW Mabank. Loc.

Hill County

Carter-Bowland's No. 1 J. J. Atchison estate, E. Carroll Sur., 5 mi. W of Hillsboro. S.D. 85 ft.

Houston County

J. C. Wynne et al's (Shell Oil Co., Inc.) No. 1 G. E. Dorsey, M. Sallas Sur., 2½ mi. S of Percilla; E 102 ac. of tr.; 10,000-ft. test. D.S.T. 8,541-76 ft.; rec. mud cut with gas and oil; cg. 9,962 ft.

Kaufman County

W. H. McGee's No. 1 Rutland Savings Bk., John Baker Sur., 2¼ mi. NE of Tulosa. R.U.

T. G. Shaw, Tr.'s No. 1 Angus Wynne, B. S. Newman Sur., 8 mi. E Kaufman; lower Trinity test. S.D. title trouble.

Limestone County

Peyton Bros.' No. 1 Harris, P. Varella Sur. P.B. to 4,495 ft.; S.D.W.O. 4,952 ft.

Murray Samuell and Zephyr Oil Co.'s No. 2 Cannon Barron, NE part of 320-acre tract in W. G. McKenzie Sur, half mile NE of pool opener. Drlg. 5,575 ft.

J. J. Tyrell's No. 1 A. G. Easterling, J. L. Chavert Sur., 11 mi. E of Groesbeck. Drlg. 3,290 ft.

McLennan County

T. M. Smart's No. 1 J. W. Mann, C. O'-Campo Sur., 4 mi. S of Waco. S.D. 1,-327 ft.

Nacogdoches County

Melrose Oil Co.'s No. 1 C. N. Wilson, J. Hall Sur., 250 ft. S line and 1,530 ft. E line of survey, 10 mi. SE of town of Nacogoches. S.D. 50 ft.

Navarro County

C. F. Carter's No. 1 Allen Eden, M. Shire Sur., 2 mi. NE of Angus. S.D. 1,201 ft.

Guy Sitton's No. 2 R. D. Fleming, John Harris Sur., 450 ft. E of No. 1 dry hole. Bailed slight show oil and S.D. for test at 1,625 ft.

W. H. Warren's No. 1 L. Grey, E. Powers Sur., 9 mi. SE of Kerems. S.D. 660 ft.; T.D.

Red River County

Dave Flesch's No. 1 Bailey, J. Robbins Sur., 1 mi. W of Bagwell. S.D. 3,415 ft.

Kansas-Oklahoma Pet. Corp.'s No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. S.D. 1,000 ft.

Rusk County

Jeff Bolton's No. 1 Hall Wood, J. I. Sanches Sur., 2½ mi. NW of New Salem. Lost circ. and skd. rig to start new hole; T. Wdbne. with sat. at 4,-145 ft.; S.S.O. 4,201 ft.; S.D. to test.

A. O. Whittington's No. 1 Kangerga Bros., Ign. Castro Sur., 9½ mi. N and slightly E of Pirtle. S.D. 80 ft.

Smith County

Shell Oil Co., Inc.'s No. 1 H. Campbell, P. Lively Sur., 1½ mi. N of Chapel; 9,500-ft. test. T. Paluy 5,533 ft.; T. Glen Rose 5,818 ft.; T. Tr. Pk. 6,247 ft.; W.O.C. 8,600 ft., T.D.

Sun Oil Co.'s No. 1 E. B. Huddle, Wm Dickerson Sur., 2 mi. S of discovery dist. producer in Chapel Hill area; drlg. 6,610 ft.

Trinity County

Gossage et al's No. 1 First Natl. Bnk., B. F. Wright Sur., S of Trinity. R.U. and S.D.

EAST TEXAS

(Border Counties)

Bowie County

W. E. Niell's No. 1 Lewis Fort, 600 ft. NL, 150 ft. EL, 103-ac. tr., L. Peters Sur. S.D. 960 ft.

Harrison County

M. & H. Oil Co.'s No. 1 Vaughn, A. P. Hope Sur. T.D. 2,316 ft.; tstd. S.S.O.; prep. core ahead.

Marion County—Other

A. F. Anding's No. 1 Duke Hart, M. G. Noll Sur. T.D. 2,402 ft., sd.&sh.; set 5-in. csg.; W.O.S.R.

Tom Bell's No. 2 Moseley, D. Lane Sur. T.D. 2,640 ft.; 6⅝-in. csg. 2,500 ft.; swbd. S.S.O.; prep. dpn.

R. W. Cosby's No. 1 Stiles, J. G. Reeves Sur. T.D. 2,406 ft.; W.O.S.R.

J. D. Reynolds' No. 5 Terry est., W. Coore Sur. T.D. 2,359 ft.; W.O.S.R.

J. D. Reynolds' No. 6-A Terry, W. Coore Sur. T.D. 2,517 ft., sdy. sh.; W.O.S.R.; 6⅝-in. csg. 2,320 ft.

Sanders & Wyckliffe's No. 1 W. P. Stiles, M. Noll Sur. S.D. 2,408 ft.

John Wrather's No. 1 Torrens, T. J. White Sur. S.D. 2,405 ft.

Shelby County

W. H. Neel et al's No. 1 J. W. Hanson, C 64-ac. tr., A. Sanford Sur. M.I.M.

Superior Oil Co.'s No. 1 Pickering Lbr. Co., 990 ft. E, 330 ft. N, SW cor. Lot 4, W. J. Crane Sur. R.U.

NORTH TEXAS WILDCATS

Archer County

C. B. Christie & Phillips' No. 1 H. H. Taylor, 330 ft. from S and 3,358 ft. from W lines of Harvey Cox Sur., Abst. 67. Spd.

Clark-Cox et al's No. 1 J. M. McCarty, NW cor. C. C. Brawn Sur., Abst. 20. Loc.

Continental Oil Co.'s No. 1 L. F. Wilson, NE cor. SW¼ Sec. 20, H.&T.C. Sur. (1½ mi. E of Hull-Silk). Drlg. 442 ft.

Bert Ligon's No. 1-D White, NE cor. Lot 1, Blk. 40, A.T.N.C.L. Sur. (1½ mi. E of Hull-Silk field). Loc.

Petroleum Producers Co.'s No. 1 D. L. Wolf, NW cor. Sec. 2, J. Poltevent Sur., Abst. 1310 (5,200-ft. test). Drlg. 2,888 ft.

Roeser & Pendleton's No. 1 J. R. Parkey, Sec. 11, Blk. 3, H.&T.C. Sur. (north outpost to Mankins deep pool). Spdg.

Waldo E. Stephens et al's No. 1 Hattie B. Adae, SE part of Blk. 7, Palo Pinto Co. Sch. Lds., 3 mi. SE of Griffin pool. Fsg. drill stem 4,000 ft., T.D.

Baylor County

Hall-Jordan Oil Co.'s No. 1 D. E. Blackman, SE NE Sec. 28, Blk. 3, H.&T.C. Sur. Drlg. 4,012 ft.

Staton & Bunch's No. 1 Robertson, C.S. L., NE cor. Blk. 10, Stanton subd. S. S.O. 2,996-3,050 ft., 3,124-84 ft.; drlg. 3,205 ft.

Clay County

L. T. Burns' No. 1 E. Henderson, SW cor. SE¼ Sec. 2615, T.E.&L. Sur. Loc.

L. T. Burns' No. 1 J. G. Mullins, 330 ft. from N and E lines of N 160 ac. of Sec. 2617, T.E.&L. Sur. Loc.

Shell's No. 1 Davis, Sec. 93, J. H. Belcher. O.W.D.D.; S.D. 5,136 ft.

Shell Oil Co., Inc.'s No. 1 M. L. Henderson, 6,000-ft. test, in Blk. 2605, T. E.&L. Sur. S.S.O. 3,419-36; S.S.O. 3,507-19 ft.; S.S.O. 3,573-85 ft.; S.S.O. 3,655-57 ft.; T.D. 3,824 ft.; P.B. 3,570 ft.; cmtd. 4½-in. 3,494 ft.; P.B. to 3,497 ft.; perf. 12 shots 3,362-66 ft.; swbd. 43 B.O.P.H.

Cooke County

Big Indian Oil & Development Co.'s No. 1 T. E. McFadden, SW cor. 212-ac. tract, D. Martin Sur., Abst. 654. R.U.

Cranfill & Staley's No. 1 S. H. Peery, SW B.B.B.&C. Sur., Abst. 145. Drlg. 2,170 ft.

Heydrick et al's No. 1 W. Franklin, A. Rodiquez Sur., Abst. 851. Spd. and S.D.

Mudge Oil Co.'s No. 1 Bonner, 330 ft. from S and E lines of east 30 ac. of west 61 ac. of south 101 ac., A. Emanuel Sur., Abst. 1196. M.I.M.

Mudge Oil Co.'s No. 1 Sam Seagrave, 330 ft. from SW cor. of 193 ac. lease, O.M. Gray Sur., Abst. 415. Loc.

C. E. Sykes' No. 1 H. Christian, 1,000 ft. from W and SW lines, J. P. Bailey Sur., Abst. 70. Drlg. 608 ft.

Cottle County

J. E. Burns et al's No. 1 J. E. Moss, Sec. 5, Blk. L, A. Forsythe Sur. Jnkd. 225 ft.; skd. 20 ft. S; S.D. 1,823 ft.

Denton County

Jones Drlg. Co.'s No. 1 H. K. Armstrong, L. Moore Sur., Abst. 824. S.S.O. 1,626-32 ft.; flwd. 19 bbl. in 11 hrs.; tstg.

Foard County

Foster Pet. Corp.'s No. 1 E. M. Gamble, 4,500-ft. test; E. 180 ac. of S½ Sec. 13, Blk. A, H.&T.C. Sur. Had gas sd. 2,300-29 ft.; est. 5,000,000 cu. ft.; T.D. 3,417 ft.; S.D. to run csg. and test gas sd. 2,300-29 ft.; perf. 2,305-09 ft.; 5 shots; blowing est. 5,000,000 cu. ft. gas and spray S.W.

Hardeman County

Carter & Taylor's No. 1 Norton, NW cor. 91-ac tr. in Blk. 3, Robt. Young Sur., 16 mi. N of Quanah. S.D. 256 ft.

Norris & Gilbert's No. 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur. Spdg.

Jack County

J. B. Cooper and Paul P. Steed's No. 1

Mathis, J. H. Nesmith Sur., Abst. 1562. Cd. oil sd. 2,873-79 ft.; T.D. 2,883 ft.; tstg.

W. L. Forbes et al's No. 1 N. W. Davis, B.B.&C. Sur. Spd. and S.D.

Hanlon-Buchanan, Inc.'s No. 1 A. T. Smith, NE cor. Sec. 2, S.P.R.R. Sur., Abst. 2175. Drlg. 2,830 ft.

Harper Pet. Co.'s No. 1 J. W. Kinder, SW¼ Sec. 2667, T.E.&L. Sur., Abst. 762 ft. T.D. 1,972 ft.; S.D.

Pitzer & West's No. 1 Sloan, Sec. 2786, T.E.&L. Sur. Rng. 8-in.; cg. dry. sd. 2,770-80 ft.; drlg. 4,125 ft.

Montague County

W. H. Gant and Continental's No. 1 J. L. Brown, Sec. 58, E.T.R.R. Sur. 6⅝-in. 6,843 ft.; brkn. sdy. L. S.O. 6,843 ft.; treat. 8,000 gal. acd.; test showed O.& G. 7,036-56 ft.; T.D. 7,333 ft.; rng. 5⅛-in. lnr. at 6,843-7,333 ft.

W. K. Jones' No. 1 E. E. Johnson, Sec. 5, Abst. 230, E.T. Sur. (5,500-ft. test). Drlg. 238 ft.

W. B. Omohundro's No. 1 Seay, Sec. 32, Blk. 4, H.&T.C. Sur. (5,500-ft. test). Drlg. 4,459 ft.

Wm. J. Payne's No. 1 T. M. Baker, NW¼ Lot 42, W. J. Wells Sur., Abst. 844, 5,000-ft. test. Loc.

Sinclair Prairie Oil Co.'s No. 1 W. B. Howard, W. Wallace Sur., Abst. 841 (5,000-ft. test). Drlg. 4,742 ft.

Stanolind O. & G. Co.'s No. 1 McCool, NW cor. Jacob Lenow Sur. (½-mi. W outpost to Rogers field). M.I.M.

Wichita County

E. C. Harlin, Jr., et al's No. 1 I. H. Kemner, SE cor. Blk. 28, Lge. 1, Denton Co. Sch. Lds. (5,200-ft. test). Loc.

Bert Ligon's No. 2 C. F. Collins, SW cor. J. T. Tyler Sur., Abst. 568. O.S. 4,217-21 ft., 4,273-96 ft., T.D.; W.O. csg. to set 4,280 ft.

W. B. Omohundro et al's No. 1 L. N. Lochridge, L. Netherly Sur., Abst. 240 (5,000-ft. test). Cmt. surface pipe.

Wilbarger County

H. G. Gay's No. 1 A. S. Ross, 1,320 ft. EL, 660 ft. SL, Sec. 65, Blk. 15, H.& T.C. Sur. T.D. 1,770 ft., S.D.

Rogers & Cavin's No. 1 A. P. Morris, Sec. 3, Blk. 14, SW Harrold. S.D. 2,809 ft.

Wise County

H. M. Muse's No. 1 F. F. Kaker, Blk. 16, Montagorda Co. Sch. Ld. Pits.

Young County

F. T. Conner's No. 1 Wright McClatchey est., SW cor. Sec. 284, T.E.&L. Sur. Loc.

Cosden Pet. Corp.'s No. 1 W. E. Steele est., NE part of R. M. Burton Sur., Abst. 8, 7 mi. SE Graham. 4,200-ft. test; tight hole. 6⅝-in. 3,734 ft.; tstg. 3,835-85 ft.; est. 10,000,000 cu. ft. gas; drlg. 3,895 ft.

H. W. Dyer's No. 1 M. G. Cheney. M. L. Terry Sur., Abst. 1261. Drlg. 690 ft.

K. R. March's No. 1 Ed. Burton, NE cor. Blk. 99, J. A. True Sur., Abst. 1640, 4 mi. SE Graham, 4,250-ft. test. Drlg. 3,500 ft.

A. T. Strong et al's No. 1 E. C. Stovall, Sec. 2946, T.E.&L. Sur. (4,800-ft. test). Drlg. 4,145 ft.

Taubert & McKee Drlg. Co.'s No. 1 Shanafelt, P. Pointevent Sur., Abst. 1309. 6⅝-in. 4,012 ft.; treating 2,000 gal. acid 4,437-4,500 ft.; P.B.; H.F.W. 4,398-4,410 ft.; R.U. spdr.

James Toughy et al's No. 1-C F. Akers, W. McClure Sur., Abst. 183. S.S.G. 3,-994-4,005 ft.; S.O. 4,005-20 ft.; est. 4,-000,000 cu. ft. gas; tstg.

WEST CENTRAL TEXAS DISTRICT

Brown County

Shallow Oil, Inc.'s No. 1 S. M. Black, Wm. Ranch road, 7½ mi. SE Brownwood. S.D.R. 772 ft.

A. M. Stalcup's No. 1 J. C. Morris, 900 ft. S and 700 ft. E lines of Morris tr. in John Goodwin and W. B. Hester surveys. Loc.

Wilson Oil Co., Inc., No. 1 M. Bowden Sec. 138, W. E. Gilliland Sur. Fsg. 2,114 ft.

Callahan County

Green & Owens' No. 1 Murray, 156 ft. from N and 1,725 ft. from E lines of Jacob Trask Sur. 761. Spd. and S.D.

Reeves' No. 1 Alexander, NE part of Sec. 12, E.T.R.R. Co. Sur. Fsg. 1,060 ft.

J. L. Reeves' No. 1 N. A. Estes, SW¼ Sec. 4; Blk. 8, S.P. Sur., 2½ mi. south Bowles pool. Loc.

Coleman County

Anzac Oil Corp.'s No. 1 McCord, 2,200 ft. E, 2,196 ft. S of B.B.B.&C. Sur. Loc.

Kynaston-Culbertson-Culbertson & Bozeman No. 1 J. P. McCord, Sec. 150, J W. Meeks Sur. S.D.O. 2,787 ft.

J. C. Ort's No. 1 Emet Walker, SE cor. Hicks Sur. W.O.C. 700 ft.

Robertson & Bradford's No. 1 Morris, 330 ft. N, 1,582 ft. W lines, Blk. 2, G.H.&H. Sur. Loc.

E. B. Tinsley and C. C. Campen's No. 1 W. Webb, H. Odle Sur. 178. S.D.O. 500 ft.

Eastland County

Bradford & Robinson's No. 1 J. P. Morris, 330 ft. N and W lines of E½ W½ Sec. 176, G.H.&H. Sur. Loc.

Butler & Horne and E. J. Keough's No. 1 L. Waters, Sec. 83, Blk. 3, H.&T.C. Sur. Drlg. 995 ft.

Dobbs Oil Corp.'s No. 1 Thomasson, S. H. Key Sur., 330 ft. from N and 846 ft. from E lines of 80-acre tract. M.I.M.

Dobbs Oil Corp.'s No. 1 Mrs. R. L. Poe, 1,320 ft. from S and E lines of SE¼ Sec. 37, Blk. 3, H.&T.C. Sur. Loc.

F. S. Holden's No. 1 J. F. Nichols, L. A. McDonals Sur., Abst. 829. S.D.O. 3,175 ft.

States Oil Corp.'s No. 1 V. N. Owens, NE Sec. 23, Blk. 2, T.&N.C. Sur. Loc.

W. A. Stiles et al's No. 1 H. F.. Duncan, Sec. 10, Blk. 2, H.&T.C.R.R. Sur. Plts.

E. E. Thate's No. 1 Smith, T. Moffett Sur. 246. Loc.

Erath County

T. Gray's No. 1 C. Young hrs., NW cor. of Stephen Smith Sur., Abst. 682. &T.C. Sur. (6,000-ft. test). R.U.

T. G. Jackson No. 1 J. W. Taylor, Prater Sur., Abst. 1029, 4 mi. NE of Desdemona. S.D.O. 2,490 ft.

J. F. Morissey et al's No. 1 R. J. Sikes, J. Hargrave Sur., 6 mi. N of Stephenville, 5,000-ft. test. S.D.O. 1,565 ft.

Fisher County

Montour Prod. Co.'s No. 1 Taggart, 1,980 ft. W and S lines, Sec. 184, Blk. 2, H. &T.C. Sur. (6,000-ft. test). Drlg. 1,-117 ft.

S. and D. Daube's No. 2 Bennett, NE¼ Sec. 51, Blk. 2, H.&T.C. Sur. S.D. test lime 3,687-3,704 ft.; swbd. 28 B.O. and 4 B.W. daily at 3,640 ft.; T.D. 3,705 ft. S.D. 3,705 ft.; may re-treat.

Hamilton County

A. J. Caldwell's No. 1 W. W. Jones, 1,002 ft. from NE and 150 ft. from SE lines of W. H. Crowder Sur. S.D.O. 480 ft.

Wallace & Vickers' No. 1 C. C. Lund, J. P. Bailey Sur. 51. S.D.O. 3,453 ft.

Haskell County

K. N. Nowels' No. 12 M. S. Pardue, SW cor. Sec. 1, S.F.I.W. Sur., 4½ mi. east Stamford. S.S.O. 2,235-52 ft.; S.S.O. 3,-399-3,410 ft.; prep. acidize 3,395-3,420 ft.; est. 25 B.O.P.D., natural; reaming csg. from 3,225 ft. to 3,391 ft.; will set 6⅝-in. csg. 3,394 ft.; W.O.C.

Jones County

Danciger Oil & Ref., Inc.'s No. 1 P. V Nelson, SE¼ Sec. 186, B.B.B.&C. Sur., 4 mi. SE Stamford. Drlg. 2,785 ft.

J. E. Farrell's No. 1 F. B. Reid, NW¼ Sec. 31, D.&D. Sur. (3,500-ft. test). Spd. and prep. to drill.

T. D. Humphrey's No. 1 H. C. Hall, SE Sec. 1, Blk. 17, T.&P. Sur., 5 mi. N of Hawley pool. U.R. 1,700 ft.

Iron Mountain Oil Co.'s No. 1 I. F. Wiley, 330 ft. from S and E lines of SW¼ Sec. 14, Deaf & Dumb Ld. Loc.

Keeler's No. 1 Radford, SE¼ Sec. 20, Blk. 4, H.&T.C.R.R. Sur. S.D.O. 1,800 ft.

Roberts' No. 1 J. Jeffreys, Sec. 7, Blk. 15, T.&P. Sur., 1½ mi. W of Sandy Ridge pool. Drlg. 3,125 ft.

Johnson County

Geo. C. Foster's No. 1 Pennington, C W 40 ac. of J. E. Pennington 247-ac. tr., ½ mi. SW of Cleburne; contract depth 3,500 ft. Loc.

Mills County

A. W. Tanner's No. 1 M. J. Ivy, M. Rhyne Sur., 2 mi. SW of Ebony; contract depth 1,450 ft. Loc.

Palo Pinto County

J. Jones' No. 1 R. H. Gauldin, NW cor. Sec. 1743, T.E.&L. Sur. S.D.O. 1,400 ft.

Parker County

Brown & Gardner Bros.' No. 1 Gilbert, T.&P. Sur., Abst. 1958. Drlg. 3,857 ft. S.D.O. 3,860 ft.

Runnels County

J. E. North's No. 1 J. W. Reese, Day Ld. & Cattle Co., 2½ mi. S of McCullen. W.O.C. 2,030 ft.

Shackelford County

Georgian Oil Corp.'s No. 1 Black ranch, C NE¼ of T.E.&L. Sur. No. 390, 10 miles NE of Albany, Ordovician test. Drlg. 1,850 ft.

Swann & Gorsuch's No. 1 Sam Lazarus. SE SE Sec. 80, Blk. 13, T.&P. Sur. M.I.M.

Stephens County

Grace & Woods' No. 1 Joe Beaty, NE cor. W. M. Bales Sur. 1110 (semiwildcat). Sat. at 3,614 ft.; D.D. to 3,658 ft.; tstg.

Jones Drlg. Co.'s No. 1 Corbett, SE Sec. 3, Blk. 3, S.P. Sur., 1½ mi. NE of Fagg area. Loc.

Panhandle Ref. Co.'s No. 1 Frank Magers, SE Sec. 1, Blk. 3, S.P. Sur., 1¾ mi. N of Fagg area. Loc.

Pitzer & West and Brazos-Young Oil Corp.'s No. 2-B N. G. Price, SE cor E½ SW Sec. 67, B.A.L. Sur. Saturation in L. 3,510-14 ft.; drlg. 3,700 ft.

Stonewall County

Shell Oil Co., Inc.'s No. 1 A. E. Smith, Sec. 143, Blk. 1, H.&T.C. Sur.; 6,000-ft. test. S.S.O. 4,395-97 ft.; U.R. 4,670 ft.; T.D. 5,185 ft.

Throckmorton County

Normandie Oil Corp.'s No. 1 Travis Co. Sch. Lds., Sec. 37, Abst. 254, 5,500-ft. test. Drlg. 1,512 ft.

Taylor County

J. C. Turner's No. 1 E. A. Sheppard, NE SW Sec. 19, B.A.L. Sur. Fsg. csg. 1,-215 ft.

FLORIDA

Baker County

Swift Creek Oil Co.'s No. 1 Howell Turpentine Co., approx. C Sec. 15-4s-19e. Loc.; drk. moved.

Dade County

Wm. G. Blanchard et al's No. 1 Everglades, 200 ft. E, 100 ft. N, SE cor Sec. 31-53s-35e. Set 16-in. csg. 140 ft.; drlg. plug.

Levy County

Florida Oil Discovery Co.'s No. 2 Cedar Key, SW SW NE Sec. 9-15s-13e. T.D 5,266 ft.; S.D. 4,150-79 ft. Set 4-in. csg. 4,230 ft.; perf. 4,150-79 ft.; ran tbg. and swbd. slight trace oil and S.G.; S.D.

Harkey & Houck's No. 1 Crapps, Sec. 15-14s-17e. T.D. 900 ft.; no report.

Nassau County

St. Mary's River Oil Corp.'s No. 1 Hilliard Turpentine Co., NW cor. NW SE Sec. 19-4n-24e. Reported S.O. 4,795-4,810 ft.; S.D. 4,814 ft. T.D.

Suwannee County

Wm. G. Blanchard et al's No. 1 Lucy Cotton, 774 ft. N, 153 ft. W, SE cor. NE Sec. 35-3s-11e. S.D. 184 ft.

J. W. Phillips Oil Explrtn. Co.'s No. 1 Shilkett, NW NW Sec. 14-4s-14e. S.D. cor. T.D. 369 ft.

GEORGIA

Clinch County

Georgia Resources, Inc.'s No. 1 Gillicar Dist. 4. Set 12-in. csg. 325 ft.; S.O. 400 ft.; no report.

Montgomery County

E. O. Moses' No. 3 Montgomery, SW R.R. station, Uvalda Sur. Drlg. sh. 750 ft.; no report.

MISSISSIPPI

Attala County

F. R. Jackson's No. 1 Federal Land Bank, 410 ft. S, 620 ft. E NW cor. NW SE Sec. 29-16n-9e. Drk.

Kosciusko Oil Co.'s No. 1 Jones, 600 ft NW cor. Sec. 5-15n-9e. Loc.

P. & M. Oil Co.'s No. 1 J. A. McMillin 300 ft. SW cor., SE SE Sec. 26-13n-5e. Drk.

Choctaw County

Garland Anthony et al's No. 1 Ballard, SE cor. Sec. 8-18n-1e. T.D. 22 ft.; S.D.

Copiah County

Triangle Drlg. Co.'s No. 1 W. W Broome, 153 ft. SW cor. SW SE Sec 1-10n-8e. T.D. 15 ft.; arng. resume drlg.

Hinds County

Crescent Oil Mill's No. 1 fee, E side Mill St., fire zone No. 3, City of Jackson, Sec. 3-5-1e. Set 8⅝-in. csg. 822 ft.; T.D. 2,465 ft. Set 5½-in. csg. on btm. drld. out to 2,468 ft.; reported tested 50,000 cu. ft. gas and water.

Issaquena County

Germany, Lucy & Fair's No. 1 Mohanna, E½ SW Sec. 9-18n-3e. Set 18-in. csg. 20 ft.; W.O.C.

W. E. Hall's No. 1 Irby Charping, approx. C NE NW Sec. 29-10n-8w. Drk.

Locke & Mellard's No. 1 W. Gary, 660 ft. SE cor., NW Sec. 14-9n-6w. Loc.

Itawamba County

G. C. Grasty et al's No. 1 Ky. Lbr. Co., 1,320 ft. E, 660 ft. S, C Sec. 7-10s-10e. Twisted off D.S.; skd. 24 ft. S and spd.; set 10¾-in. csg. 170 ft.; S.O 1,500 ft.; T. Trenton L. 1,690 ft.; T.D. 1,794 ft.; bailed dry. Drlg. sh. 1,910 ft.

Jefferson Davis County

F. E. Courson et al's No. 1 L. J. Bailey, 330 ft. SW cor. SW NE Sec. 4-6n-18w. Set 8⅝-in. csg. 932 ft.; cd. 2,853-61 ft.; rec. 6-in. sd.; gas odor; T. Wix. 3,512 ft.; cd. 3,639-71 ft.; rec. sd. S.G.; D.S.T. 3,651-71 ft.; rec. 1,250 ft. S.W. and gas bubbles in 10 min.; B.H.P. 1,950 lb.; T.D. 5,402 ft.; prep. core.

Kemper County

M. R. Crabb et al's No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. 10¾-in. csg. 86 ft.; set 6-in. csg. 1,320 ft.; T.D 1,640 ft.; acid. with 1,000 gal.; S.D. W.O.

Lamar County

Miss.-La. Oil Synd.'s No. 1 Simmons, 1,020 ft. N, 56 ft. W, SE cor. NE Sec. 32-3n-14w. S.D. 920 ft. (cor. T.D.).

Lauderdale County

B. F. Melat's No. 1 Lockard, C SW SW Sec. 26-7n-15e. Loc. abd.; will not drill.

Monroe County

Willmut G. & O. Co.'s No. 1 Robert· NW¼ Sec. 18-13s-17w. D.S.T. 2,410-30 ft.; Amory gas zone, dry; S.G. 2,844-52 ft.; S.D. 2,905 ft.; W.O.; may deepen to 4,500 ft.

Pike County

S. R. Crouch's No. 1 Cupit, 360 ft. N 660 ft. W, SE cor. NE SW Sec. 25-2n-7e. Set 6-in. csg. 729 ft.; drlg. sd.&sh. 2,190 ft.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Allen, Sec. 8-7s-9e. T.D. 1,527 ft.; S.D.

Sharkey County

Eureka Pet. Co.'s No. 1 W. H. Cooper, 1,980 ft. S, 660 ft. W NE cor. Sec. 13-14n-6w.; R.U.

Simpson County

Cleve Love et al's No. 1 N. E. Garner, 300 ft. N and E of C Sec. 1-10n-17w. O.W. D.D.; O.T.D. 3,145 ft.; M.I. rig.

Warren County

H. C. Cummings et al's No. 1 T. H. Morrissey, C E½ W½ NE Sec. 8-17n-2e. Spud. and S. D. 20 ft.

Yazoo County

Harry Hanbury et al's No. 1 Brooks, SW Sec. 17-10-2. Loc.

Hill & Hill et al's No. 1 Kinkead Plantation, 1,796 ft. SE cor. NE¼ Sec. 31-11-3. 7⅝-in. csg. 128 ft.; drlg. sd.&sh. 2,890 ft.

Hassie Hunt's No. 3 Johnson, C NW SE Sec. 11-10-3. Woodruff sd. 4,225-50 ft.; set 7-in. csg. 4,490 ft.; perf. 4,426-56 ft.; washing in.

Hassie Hunt's No. 1 Ida Fair, C NE SW Sec. 13-10n-3w. Woodruff sd. 4,585-4,605 ft. (oil); Stevens sd. 4,945-73 ft. (possibly S.W.); set 7-in. csg. 4,645 ft. (cor.); drld. out to 5,060 ft.; P.B. 4,610 ft. and perf. 4,585-4,606 ft.; swbg. slight S.O. and drlg. fluid.

Edgar Johnson's No. 2 Brumfield, C SW SE Sec. 2-10-3, Spdg.

Jones & O'Brien Bros.' No. 1-C Stevens, C SE NE Sec. 11-10-3. R.U.

Jones & O'Brien's No. 2-C Stevens, C NE NE Sec. 11-10-3. T.D. 4,752 ft.; Woodruff sd. 4,729-52 ft.; set 7-in. csg. 4,723 ft.; comp. 1,852 B.P.D., 30/64-in. ck.; T.P. 400 lb.; C.P. 360 lb.

Robt. P. Lake's No. 1 Exum Est., C SW NE Sec. 13-11-2. Will spud Feb. 18.

J. R. Lockhart et al's No. 1 Frank Brooks, W½ SE NW Sec. 17-10-2w. Drlg. bl. sh. 4,500 ft.

Nelson Bros.' No. 1 S. S. Stoner, C SE NW Sec. 2-11-5w. Loc.

Plains Prod. Co.'s No. 2 Milner, 660 ft. E, 1,980 ft. N SW cor., Sec. 7-10-2. Loc. abd.; will not drill.

Fullwood Purifoy's No. 1 O'Neal, 660 ft. N, 300 ft. W, SE cor. SW¼ Sec. 22-10-3. Loc. abd.

R. B. Sanders' No. 1 E. W. Milner, 369 ft. S, 330 ft. E, NW cor. Sec. 18-10-2. Loc.

Union Prod. Co.'s No. 3 Perry, C NW NE Sec. 24-10-3. Set 10¾-in. csg. 605 ft.; Woodruff sd. 4,585-4,614 ft.; rng. csg.; T.D. 4,648 ft.

Union Prod. Co.'s No. 1 Stevens, C NW NW Sec. 13-10-3, O.W.W.O., O.T.D. 6,112 ft. P.B. 4,973 ft.; set 1st retainer 1,820 ft.; perf. 4,808-10 ft.; 2nd retainer 4,898 ft.; recomp. 750 B.P.D.; 50% S.W.; ¼-in. ck.; went dead; S.D.W.O.

Union Prod. Co.'s No. 4 Stevens, C SE SW Sec. 12-10-3. T.D. 4,825 ft.; Woodruff sd. 4,414-49 ft.; sd.&sh. 4,810-24 ft.; D.S. tested 360 ft. oil, mud and wtr. in 10 min., ¾-in. ck.; set 7-in. csg.

Union Prod. Co.'s No. 6 Stevens, C NE NE Sec. 13-10-3, Loc.

Union Prod. Co.'s No. 9 Stevens, C SW SW Sec. 24-10-3. Drlg. bl. sh. 4,550 ft.

Union Prod. Co.'s No. 6 Woodruff, C SW NW Sec. 13-10-3. Set 16-in. csg. 67 ft., 10¾-in. csg. 1,213 ft.; W.O.C.

Whigate Oil Co.'s No. 1 Robertson, 330 ft. NW cor. Sec. 20-10-2. R.U.

MISSOURI

Holt County

Brin & Nathan's No. 1 Decker, C NW NW Sec. 1-61-38w. T.D. 1,030 ft.; S.D. for csg.

Knox County

W. H. Oberithier et al's No. 1 Campbell, C NE Sec. 18-61-12w. Hntn. 575 ft.; drlg. 576 ft.

Platte County

Roach-Vincent et al's No. 1 Dillingham, NE SW Sec. 16-53-34w. S.D. 1,025 ft.; to resume when weather permits.

Schuyler County

T. E. Baldwin's No. 1-A Johnson, NW NE NE Sec. 21-65-15w. T.D. 1,069 ft.; prep. to test S.O. in Hntn. L.

ARIZONA

Cochise County

Funk Benevolent Corp.'s No. 1 fee, SE NE Sec. 27-13s-30e. Fsg. 6,668 ft.; S.S.G. &O.

Maricopa County

Ben Case's No. 1 Johnson, NE¼ Sec. 12-1s-5w. Loc.

Legco Drlg. Co. No. 1 Battles, SW SE Sec. 25-1n-4w. Loc.

Sam F. Reaves' No. 1 Fuqua, NW NW NE Sec. 34-1n-1w. S.D. 4,117 ft.

Sam F. Reaves' No. 1 King, SW SE Sec. 33-1n-4w. W.O. csg. 1,607 ft.

Peoples O. & G. Co. No. 1 Gardner, SE¼ Sec. 2-1n-3e. Drlg. 925 ft.

Pima County

R. W. Schenck's No. 1 Boyce, Sec. 22-19s-17e. S.D. 350 ft.

Personal Paragraphs

M. G. CHENEY of Coleman, Tex., president of the Anzac Oil Corp., will be feature speaker at the monthly meeting of the Fort Worth Geological Society to be held on the night of February 8. He will speak on "Revised Classifications of the Paleozoic Section of North Central Texas."

R. B. ROARK, vice president and general manager of Shell Oil Co., Inc.'s Tulsa offices; R. B. BOND, production manager in the Tulsa office; and W. H. COLLINS, division production manager of Wichita Falls, Tex., will be in attendance at a banquet being given 60 of the company's older employes at Amarillo, Tex., on February 7. Company employes with service records of 10, 15, and 20 years will be guests.

R. C. ALDEN, director of research, Phillips Petroleum Co., Bartlesville, Okla., has remained home ill for several days as the result of a severe cold.

W. F. KNODE, of Calgary, former chairman of the Petroleum and Natural Gas Conservation Board of Alberta, is spending a month in Texas.

J. A. LaFORTUNE, vice president, Warren Petroleum Corp., was a Gulf Coast visitor the past week, returning to his Tulsa offices on Saturday.

J. A. JETT, scout with Gulf Oil Corp., has been transferred from Texas to Mississippi. He will handle the new assignment out of the Shreveport, La., office.

DR. KATHARINE W. CARMAN and Trinity Petroleum Co. have assumed management of the oil exploration and development work of North Central Oil Corp., in the north central states.

T. RIEBER, chairman of the board of Texas Corp., who recently returned from a visit to Europe, during which he talked with Field Marshal Herman Goering of Germany, had an interview with President Roosevelt at the White House last week.

SIR WILLIAM FRASER, director of Anglo-Iranian Oil Co., has been elected to the board of Burmah Oil Co. He is also a member of the Petroleum Board, the organization set up by the major oil companies at the request of the British Government to coordinate the distribution of petroleum products in the United Kingdom.

GEORGE W. STRAKE, independent producer of Houston, Tex., and Mrs. Strake are spending some time in New York before leaving for their summer home, "Glen Eyrie," in Colorado Springs, Colo.

LYNN K. LEE, who has been Illinois division geologist for Pure Oil Co. at Olney for 3 years, will become division geologist at Fort Worth, Tex., replacing FRANK E. POULSEN, who has resigned. The Illinois division post will be filled by DARSIE A. GREEN, district geologist in the Tulsa division, who has been transferred to Olney. NORMAN L. THOMAS, paleontologist at Fort Worth, has been appointed division geologist with headquarters at Bakersfield, Calif.

T. P. CARR, of Harbar Drilling Co., Wichita, Kans., will move to Fort Worth, Tex., within the next 2 weeks to take charge of the Texas office the company is opening in that city.

GEORGE BARNARD, assistant purchasing agent, Cities Service Oil Co., Bartlesville, Okla., has been undergoing treatment in a Kansas City hospital preparatory to an operation for a kidney ailment.

FLOYD MOORE, executive secretary of the Houston Independent Petroleum Marketers Association, resigned last week to take a position with the Quality Lubricants Co. J. R. CONNERY, vice president of the association, was appointed to succeed Mr. Moore.

DON STOOKY, geologist with Texas Co. at Wichita Falls, Tex., is to be transferred to the company's Fort Worth, Tex., district office. He will be succeeded by WENDALL G. SANFORD, at present in the company's Pampa, Tex., office. M. C. CARR, for the past 12 years district clerk at Wichita Falls, has been transferred to Breckenridge, where he will assume a like capacity for the West Central Texas division. E. E. MERKT, of the production department at Nocona, is to move into the company's Wichita Falls office to become assistant to M. J. McGUIGAN, North Texas production superintendent.

T. R. ARMSTRONG, director and vice president of Creole Petroleum Co., sailed from New York February 2 en route to Venezuela.

JOHN A. WOODWARD, president of St. Anthony Oil Co., has announced that the company will resume drilling operations in the Rosecrans field within the next week or 10 days.

HOWARD W. WILSON, of General Petroleum Corp., California subsidiary of Socony-Vacuum Oil Co., presided at the last monthly meeting of the Los Angeles Petroleum Accountants Society.

L. C. BECKER, of Shell Oil Co., Inc., received a 20-year service medal recently. He is superintending construction of a natural-gasoline plant for the company in the Magnolia field of Columbia County, Arkansas.

WALTER PROCTOR, pipe-line scout with Gulf Oil Corp., Tyler, Tex., for 7 years, has been transferred to Victoria. JOHN KEARBY, in the land department, has left the Tyler office following transfer to Houston.

DR. H. V. HOWE, head of the geological department at Louisiana State University, Baton Rouge, will address members of the Mississippi Geological Society on the subject, "The Vicksburg and Jackson Formations in Mississippi," at the organization's regular semimonthly meeting, February 14 in Jackson. W. J. GILLINGHAM of the Schlumberger Well Surveying Corp. gave a paper on "The Electrical Log" at the last meeting held on January 31.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Cushing producers who have been selling surplus oil below the posted market price cause a general 10-cent reduction in the posted price of Oklahoma crude, led by Prairie Oil & Gas Co., making the new price 35 cents per barrel for Healdton crude and 45 cents in other Oklahoma fields. Prairie, Texas and Gulf companies have reduced their purchases in the Cushing field.

George Coyle has been made general superintendent of the Prairie Pipe Line Co., and John R. Manion assistant general superintendent.

The Magnolia Petroleum Co. is laying a pipe line from the Cushing, Okla., field to the Texas State line, where it will tie into another Magnolia line.

20 YEARS AGO

Charles K. Book, veteran and widely known oil operator in the early day eastern fields dies in Los Angeles, Calif., where he had been living for the past 15 years.

A "mystery" well being drilled in Section 17-12-7, near Paden, Okla., is the subject of fabulous stories as to its potentiality, but the owners are looking wise and saying nothing. The derrick is boarded up and a guard says "shoo!" to snoopers.

10 YEARS AGO

The Gulf Coast of Texas and Louisiana passes the 200,000-bbl. mark in daily production with Refugio, Texas, field leading with 36,000 bbl. per day.

The Santa Fe Springs field in California with 76,477,464 bbl., leads all fields in production in 1929. Long Beach, Calif., was second with 60,495,555 bbl.

James K. Crawford, nationally known oil executive, dies in Tulsa on February 6. He was managing head of Brothers Oil Co., composed of John M., James K., David B. Crawford.

RALPH JOHNSTON, independent operator of Houston, Tex., returned last week from a business trip to Jackson, Miss.

JOSEPH H. RUSSELL, vice president of Gulf Oil Corp., Houston, Tex., was appointed head of the 1940 agency relation council of the Houston Community Chest.

P. T. MARTIN, for several years at Fellows, Calif., has been transferred to Los Angeles and appointed division superintendent of Texas Co. for Los Angeles Basin district.

HARVEY YATES, geologist of Artesia, and MISS LOUISE DAVIDSON of Carlsbad were married recently in Albuquerque, N. M. Mr. and Mrs. Yates will make their home in Artesia.

C. L. LEDEBUR, scout for Forest Development Corp. in the West Texas district, with offices in Midland, has been transferred to the land department. His former duties have been taken over by DeWITT CARR, who recently resigned as scout for Stanolind Oil & Gas Co. in West Texas.

JOHN BEDDOW, refinery superintendent; SCOTT SMITH, refinery engineer; FRED SCHERFF, chief chemist, and FRED BEHRENS, chemical engineer, of Wilshire Oil Co., entertained a group of dealer resellers last week in a tour of the company's Norwalk refinery. SIDNEY F. DEUTSCH, sales manager, was host at a luncheon served at the plant.

W. J. ARMSTRONG, of the Oklahoma Oil and Gas Conservation office; CHARLES ORR, secretary of the Interstate Oil Compact Commission; former GOV. W. J. HOLLOWAY, attorney for the commission; and EARL FOSTER, attorney for the Conservation Department of the Corporation Commission, accompanied GOV. LEON C. PHILLIPS to Washington, D. C., in opposition to the Cole bill.

Two Go to New Posts

Two veterans in Tide Water Associated Oil Co.'s service, Noel Robinson and George J. Hanks, went to new posts in the past week. Mr. Robinson, with a service record of 23

NOEL ROBINSON

GEORGE J. HANKS

years, resigned as vice president and director to take similar posts in South Penn Oil Co., Pittsburgh, Pa. Mr. Hanks, with the company 25 years, was elected a director to succeed Mr. Robinson. He already was a vice president.

Mr. Robinson, who was born in Sewickley, Pa., joined Tide Water Oil Co. in 1917. He became a director in 1928 and the next year was made vice president in charge of manufacturing. When Tide Water and Tide Water Associated were merged in 1936 Mr. Robinson was made vice president and director and also chairman of the operating committee of the eastern division.

Mr. Hanks for 2 years had been vice president in charge of transportation of the eastern division and recently was appointed vice chairman of the operating committee. Until 1933, when he was transferred to the New York headquarters, he spent most of his time in the Bradford, Pa., office. Upon moving to New York Mr. Hanks assumed responsibility for production in the Bradford field, besides supervising the eastern fleet of tankers and Mid-Continent pipe-line operations.

B. W. HAYWOOD, scout for the Gulf Oil Corp. at Victoria, Tex., has been transferred to Tyler, Tex.

FRED WOOD, independent operator of Corpus Christi, Tex., returned last week from a visit to Mexico.

L. C. HARRISON, independent operator, formerly of Dallas, Tex., has moved his offices to Lubbock, Tex.

PAUL M. MEINTS has been promoted to general process foreman of Phillips Petroleum Co.'s refinery at Okmulgee, Okla.

PAUL R. MARTIN, chief scout for Pure Oil Co. in the West Texas district, has been transferred from Fort Worth to the company's offices at Odessa.

R. W. BOND, production manager, Shell Oil Co., Inc., Tulsa, and W. H. COLLINS, division manager in charge of the Wichita Falls and Panhandle districts, attended a luncheon given by the company to 60 employes at Amarillo, Tex.

E. O. BUCK, Houston, Tex., consulting geologist, addressed the student chapter of the A.I.M.E. at Texas A. & M. College the past week. Mr. Buck spoke on "Results Obtained in Study of Fields in South Texas and North Louisiana."

DR. PAUL H. DUNN, head of the geology department at Mississippi State College, announced a new geology course on "special problems" which will deal particularly with petroleum, and will include field trips to the state's new oil field at Tinsley.

HOWARD L. DONALDSON, of Pittsburgh, Pa., has been appointed chairman of the committee on personnel practices of the American Gas Association by WALTER C. BECKJORD, president of the association. Mr. Donaldson is director of personnel of the Philadelphia Co.

Shifts: B. L. BLOODWORTH, engineer Texas Co., from Opelousas, La., to Lake Charles, La.; R. H. WEAVER, engineer Sun Oil Co., from Hattiesburg, Miss., to Jackson, Miss.; GEORGE W. SPIERS, engineer Venezuelan Oil Development Co., from Maracaibo, Venezuela, to Port of Spain, Trinidad, B. W. I.; D. R. MERRILL, president Union Oil Co., from Long Beach, Calif., to Bristol, Pa.; ROSS M. LOCKHART, Lockhart Oil Co., from Pasadena, Calif., to San Antonio, Tex.; FRANK S. PARKER, geologist Shell Petroleum Corp., from Evansville, Ind., to Los Angeles, Calif.; JOHN S. WELLER, president Elk Petroleum Co., from Pittsburgh, Pa., to Los Angeles, Calif.; H. E. CHRISTENSEN, geologist Texas Co., from Wichita, Kans., to Denver, Colo.; H. E. HARRILL, drilling contractor Harrill Drilling Co., from Ada, Okla., to Gainesville, Tex.; H. N. K. BROOKINGS, geologist Phillips Petroleum Co., from Enid, Okla., to Oklahoma City, Okla.; GEORGE MARTIN, superintendent Barnsdall Oil Co., from Okmulgee, Okla., to Victoria, Tex.; N. C. MORTIMER, superintendent Phillips Petroleum Co., from Great Bend, Kans., to Chase, Kans.

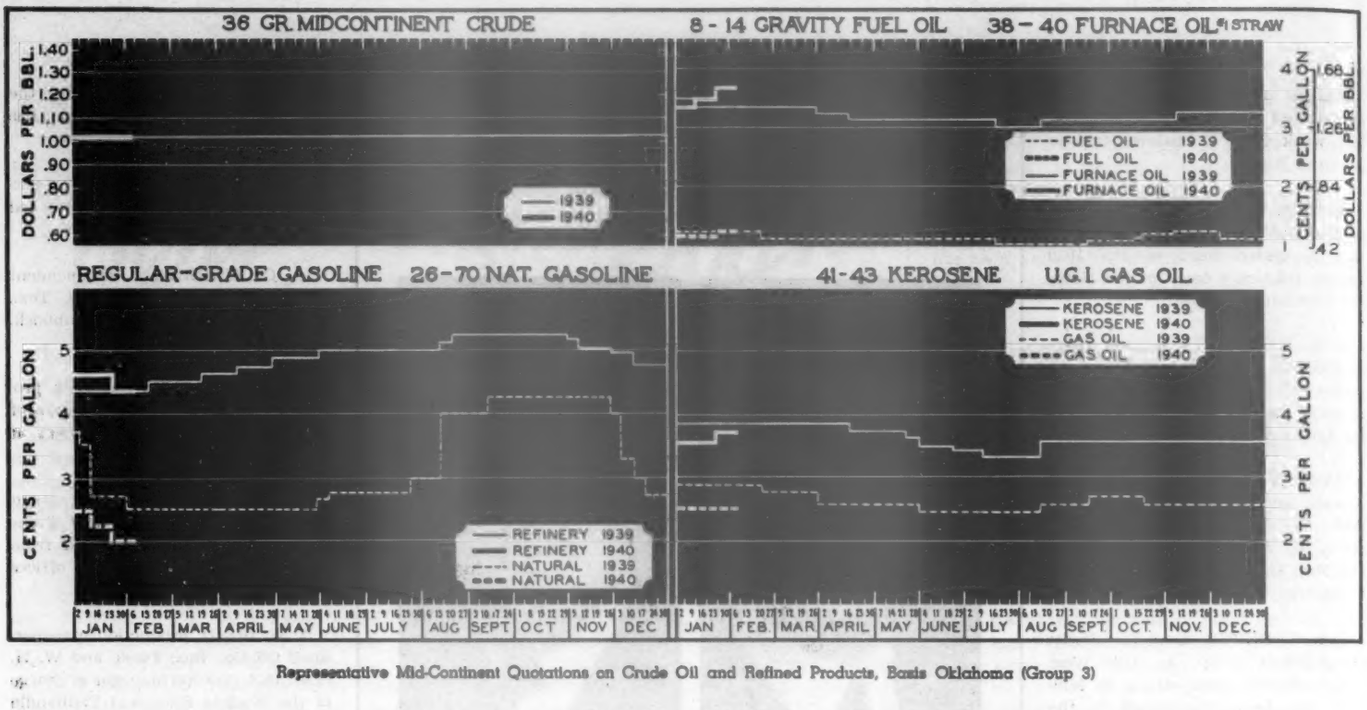
LEWIS EMERY, oil man of Bradford, Pa., contributed $1,000 to the Metropolitan Opera Fund being raised to buy the Metropolitan Opera House in New York and perpetuate opera in its old home.

NEAL W. GAUT, for the past 8 years district clerk for Texas Co. in the Panhandle field with offices in Pampa, Tex., was honored by fellow employes with a banquet last Saturday night prior to his leaving for Wichita Falls, where he will become district clerk for the company's North Texas operations. At the same time H. P. DOSIER, who succeeds Mr. Gaut, was welcomed. Mr. Dosier was formerly in the Texas Co.'s Breckenridge offices.

CHARLES G. HOOKS, independent operator of Houston, Tex., spent several days at Deer Park ranch, near Kerrville, last week.

DR. E. H. SELLARDS, director of the bureau of economic geology of the University of Texas, addressed the weekly meeting of the Houston Geological Society last week. Dr. Sellards spoke on "Excavations of Meteor Craters and Other Recent Excavations in Texas."

P. E. LEHR, district superintendent of Shell Oil Co., Inc., for Los Angeles Basin division, has been appointed chairman of the program committee for the annual spring meeting of the Production Division of the American Petroleum Institute, California district. R. J. KETTENBURG, division engineer of Shell in Los Angeles Basin, has been appointed chairman of the California subcommittee on multicylinder gas engines for the ensuing year.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Climbing Stocks of Gasoline Give Rise to Misgivings in Group 3 Market

By T. F. SMILEY

EVEN the bubbling optimists had to agree there was nothing in the Group 3 refinery market to get riotously happy over this week. The refiner whose output was confined to gasoline, kerosene, and fuel oils was operating at a loss, unless he was getting his crude at less than posted prices. If he was producing lubricating oils and wax he might possibly be coming out even, but the chances were he too had to reach for the red ink.

No sort of mathematical magic or hopeful thinking can remove the seriousness of gasoline stocks which are about 8,000,000 bbl. larger now than they should be at the beginning of April. To get these inventories down to an economic level they should be reduced at the rate of 1,000,000 bbl. each week for the next two months. Nobody supposes such a thing will happen. Nobody would think of predicting that stocks will even be held at their present figure. They will continue to rise.

Looking Ahead

In the week ending January 27 accumulations increased 2,034,000 bbl. In the 4 weeks ending on that date they rose 6,929,000 bbl., which is at the rate of 1,732,000 bbl. weekly. If just half that rate of growth is maintained the country's gasoline stocks on April 1 will total 95,700,000 bbl.

Here and there a refiner tries to extract a little comfort out of the fact—for it is generally accepted as a fact—that the heavy stocks of gasoline are in strong hands, those of big companies. But in that connection it has to be borne in mind that many of the independent refiners look to majors to absorb at least part of their output. Obviously there must come a time when the majors, already overloaded, cannot take over the troubles of overstocked independents. Then what?

Refined Oil Market Barometer

Light fuels and kerosene are active under the stimulus of cold weather. Notwithstanding a moderate downturn in refinery runs, gasoline stocks are mounting at an alarming rate, with a depressing effect on prices. Natural gasoline appears to be leveling off at current low quotations. Neutrals and bright stocks are receding, but prices hold in the Mid-Continent.

MID-CONTINENT. Gasoline unsteady. Kerosene, furnace oils, and tractor fuels firm.

EAST COAST. Gasoline weaker. Fuel oils increasingly tight. Kerosene stronger.

GULF COAST. Fuel and burning oils tight. Gasoline inactive. Kerosene steady.

PENNSYLVANIA. Gasoline off. Bright stocks and neutrals softening. Fuel oil steadier.

CALIFORNIA. Fuel oil and diesels especially weak. Gasoline soft. Kerosene easy.

CHICAGO. Weakness of gasoline less acute. Domestic heating oils and kerosene firm.

Mid-Continent gasoline stocks—a source of gratification throughout most of 1939 because they grew only 3.5 per cent in contrast with an increase of 23.4 per cent in the Gulf Coast area and 15.9 per cent in California—rose from 9,172,000 bbl. at the beginning of the year to 10,134,000 bbl. on January 27, an increase of 10 per cent. There no longer is reason for complacency over Mid-Continent inventories.

The sharp descent in prices of natural gasoline has resulted in the large manufacturers stabilizing much of their 26-lb. grade to 12 and 14 lb. Since this stabilized material can be blended with any grade of refinery gasoline, refiners are buying it more generously. They can use a much higher proportion than they could of the 26-lb., the percentage of the blend being governed by the intermediate points in the distillation range of the finished motor fuel. Few distress stocks of natural were reported in Oklahoma, moderate improvement in this respect having resulted from the conversion of such large quantities of the 26-70 into the lower vapor pressures. The increased volume of stabilized natural now going into the market virtually as finished motor fuel is a definite factor in the ascent of gasoline stocks.

Lubricants Steady

Notwithstanding weakening of lubricants in the eastern market, demand for these products continued steady in the Mid-Continent area, with little if any recession in quotations, although there were indications of softening in the neutrals. The latest report of the Western Petroleum Refiners Association shows that Mid-Continent inventories of bright stock declined 6.3 per cent in December. Inventories of viscous neutrals rose 38.4 per cent in that month. There was 48 days' supply of bright stock on the first of January, a decrease of four in a month. The days' supply of viscous neutrals grew from 27 to 37.

Heating oils were in active demand, with No. 2 straw scarce. Movement of all grades to jobbers was reported heavy, but tapering off slightly as cold waves relaxed. Kerosene was firm at the higher prices established 2 weeks ago. Tractor fuels, which displayed a better tone last week, were holding their ground.

Increasing Prices for Fuel Oil; East Coast Gasoline Weaker

By H. STANLEY NORMAN

NEW YORK, Feb. 6.—Increased prices for fuel oil, lower quotations for Pennsylvania lubricating stocks and a growing weakness in gasoline were the high points in last week's refinery markets on the Atlantic Coast.

Several suppliers of fuel oil in the northeastern section of the country raised their prices on kerosene and light fuel (Nos. 2 and 4 grades) as much as a half cent per gallon to spot tank-car buyers. There was an evident effort on the part of some suppliers to discourage spot tank-car buying in an effort to conserve rapidly dwindling stocks for contract customers.

Deliveries in the vicinity of New York and coastal terminals in New England are being made under severe handicap. Practically all river terminals as well as bays and inlets in this section remain inaccessible because of ice. Emergency deliveries are being made by tank cars where railroad facilities are available and facilities warrant and by tank trucks to other ice-bound bulk terminals. Practically all terminal operators in this section are conducting their current fuel-oil business on a hand-to-mouth basis. Proration of deliveries among regular home-owner customers is the general rule.

Refiners report that primary stocks are sufficient to see them through the winter, but that because of more than 45 consecutive days of subfreezing temperatures, interruption of normal delivery routine has given an exaggerated impression of a shortage. It is generally conceded, however, that total stocks of light fuel oils are likely to be pretty nearly exhausted in another 30 or 45 days unless weather conditions moderate. Barges and river tankers are ice-bound at several points in the Hudson River and around Long Island Sound with their cargoes valueless to both suppliers and consumers until warmer weather permits movement to destinations and reentry of vessels into regular service.

Higher prices were reported asked by Gulf Coast refiners for cargoes of Bunker C fuel oil and most suppliers there quoted an eighth of a cent higher at 4⅛ cents per gallon for cargo quantities of No. 2 fuel oil. Most Gulf refiners asked from $1 to $1.05 per barrel for cargoes of Bunker C and several were unable to quote at all on fuel cargoes. Oil for ships' bunkers on the Gulf was more freely offered than for coastwise cargo movement, largely because less volume was involved in the individual transactions.

In the absence of new buying for export or industrial consumer accounts, the prices of Pennsylvania lubricating-oil stocks dropped another point or two behind the previous week's quotations. Bright stocks, neutrals and dark cylinder oils all felt the depressing influence of slack January business. Some Pennsylvania refiners said they welcomed the current lull in demand as an opportunity to accumulate working stocks and thus place them in a more suitable position for coping with versatility of the lubricating-oil market.

The gasoline market in New York was generally unchanged. The continued record-breaking high tanker rates and the cost of producing competitive-quality motor fuel for the northeastern market are important factors in keeping gasoline prices here on a relatively stable basis. The last-paid rate for movement of a tanker cargo of motor fuel from the Gulf to a North Atlantic port was 66 cents per barrel.

The tank-car price for regular gasoline in the New York Harbor area ranges from 6½ to 7.7 cents per gallon while 65 and above is generally available at a range of 6½ to 6¾ cents per gallon.

The only change of recent weeks in the retail motor-fuel prices in this section was made at Burlington, Vt., on January 31 by Socony-Vacuum Oil Co., Inc., which raised the tank-wagon dealer quotation 0.4 cent per gallon to a new posting of 10.4 cents, exclusive of 5 cents in taxes.

Kerosene prices in New York and vicinity ranged from 5½ to 6½ cents per gallon to tank-car and barge buyers while Nos. 2 and 4 light fuels were quoted to the same trade at a range of 5 to 6 cents. The lows of both quotations apply to barge deliveries with the low of tank-car offerings from an eighth to a quarter of a cent higher.

Wax is offered more freely at New York and at inland Pennsylvania refineries. The New York quotation on scale wax has declined almost a full cent in the past three weeks and is currently offered in the same directions at 5½ to 5¾ cents per pound, to both domestic and export customers. The fully refined grades are not so freely offered, but supplies are available in several directions at prices about a half to three-quarters of a cent per pound below the quotations prevailing up to the middle of January.

Gulf Coast Markets

HOUSTON, Tex., Feb. 6.—Although sellers still are slow to take advantage of the situation and push prices higher, fuel and burning oils continued tight the past week. Demand for these products indicated no letup, and supplies at all refineries were limited. Sellers point out that while they might be able to get higher prices, increased movement of these products from inland refiners to the Coast might be stimulated, which in turn, might react unfavorably on the coastal market. Also higher Gulf Coast prices would force prices up on the eastern seaboard, where already high prices, due to the record tanker rates, are causing criticism.

In view of the outlook no concessions are offered on contracts over the next 6 months. Bunker C fuel in cargo lots for delivery over that period still is quoted at $1, which is approximately the present spot market. Customarily, in view of approach of seasonal slackening of demand, sellers would be willing to offer such material under present spot prices. Bunker C fuel in bunkers continues to be quoted at 90 to 95 cents despite the fact sellers can get higher prices in cargo lots. However, most sellers quoting material for bunkering are not offering cargo lots.

No improvement was evident in the gasoline-market outlook. While no further breaking of quotations was reported openly, the market continued inactive, and stocks increased. With continued lack of new business, the true spot market, so far as prices are concerned, still is speculative.

Kerosenes maintained a steady demand with prices firm. Lubricating-oil demand continues to keep pace with the Gulf Coast output.

A. P. I. Weekly Refinery Statistics

Week Ended February 3, 1940

	Capacity reporting (per cent)	Daily crude runs (bbl.)	Total gasoline stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Residual fuel-oil stocks (bbl.)
East Coast	100.0	538,000	18,715,000	7,386,000	7,432,000
Appalachian	87.3	116,000	3,893,000	426,000	544,000
Ind., Ill., and Ky.	90.7	487,000	14,046,000	3,052,000	2,501,000
Okla., Kans., and Mo.	81.6	246,000	7,944,000	1,185,000	2,036,000
Inland Texas	50.3	96,000	1,815,000	301,000	1,622,000
Texas Gulf	90.0	840,000	14,328,000	3,550,000	5,338,000
Louisiana Gulf	97.8	118,000	3,103,000	707,000	832,000
No. La. and Ark.	55.0	44,000	645,000	261,000	410,000
Rocky Mountains	54.2	47,000	1,477,000	161,000	460,000
California	90.0	498,000	17,151,000	9,102,000	79,351,000
Total reported	86.4	3,030,000	83,117,000	26,131,000	100,526,000
Est. unreported	.....	365,000	6,220,000	730,000	2,010,000
*Est. total	.....	3,395,000	89,337,000	26,861,000	102,536,000
*Est. total previous wk.	.....	3,470,000	87,914,000	27,407,000	103,015,000
*Feb. 4, 1939	.....	3,140,000	81,336,000	31,191,000	115,005,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended January 27, 1940	237,339,000 barrels
Week ended January 20, 1940	237,571,000 barrels
Week ended January 28, 1939	271,763,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Line From La Rosa Field

HOUSTON, Tex.—Amsco Pipe Line Co., of Corpus Christi, has let contract for a 6-in. welded oil line from La Rosa field in Refugio County to terminal facilities at Corpus Christi. The line will also connect with the East White Point, Taft, and Plymouth fields in San Patricio County. Contract was awarded to Petty Construction Co.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of February 6, 1940

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Incl. tax	tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	12.1	4.0	8.5
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	12.7	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	12.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	10.4
Minneapolis	16.5	14.5	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.0
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.6
Grand Rapids	13.9	11.7	4.0	9.7
Saginaw	14.8	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	14.3	5.0	†10.0
South Bend	16.8	15.3	5.0	†10.0
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	12.0	4.0	7.9
Wichita, Kans.	13.3	11.1	4.0	7.0

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective December 12, 1939, f.o.b. Chicago tank-wagon prices: Standard heater oil, 1-99 gal., 9 cents; 100-149 gal., 8 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex Grade A, 1-399 gal., 5.5 cents; 400 gal. and over, 4.5 cents. Stanolex Grade B, 1-799 gal., 5.25 cents; 800 gal. and over, 4.25 cents. Stanolex Grade C, 1-999 gal., 4.5 cents; 1,000 gal. and over, 3.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Cons'r tank wag.	Dividend dlr.	Incl. tax	tank wag.
Ohio points	15.5	14.5	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Cons'r tank car	Dir. tank wag.	Incl. tax	tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	8.1
Newark	11.6	12.7	4.0	8.1
Annapolis, Md.	13.35	14.35	5.0	9.5
Baltimore	12.75	13.75	5.0	7.5
Cumberland	14.15	16.15	5.0	10.0
Wash'gton, D. C.	11.00	12.0	3.0	9.5
Danville, Va.	14.95	17.45	6.0	11.5
Norfolk	13.75	16.25	6.0	11.0
Petersburg	14.05	16.55	6.0	11.7
Richmond	14.05	16.55	6.0	11.0
Roanoke	15.25	17.75	6.0	11.5
Charles'n, W. Va.	14.55	17.05	6.0	12.6
Parkersburg	13.85	15.35	6.0	11.2
Wheeling	14.85	16.75	6.0	12.2
Charlotte, N. C.	16.90	18.40	7.0	11.8
Hickory	17.45	18.95	7.0	12.3
Mt. Airy	17.30	18.80	7.0	12.2
Raleigh	16.65	18.15	7.0	11.5
Salisbury	16.95	18.45	7.0	11.9
Charleston, S. C.	14.75	17.25	7.0	6.5
Columbia	15.60	18.10	7.0	11.5
Spartanburg	16.30	18.80	7.0	12.2

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gal. or more under contract (contract not necessary in Baltimore), except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Cons'r tank wag.	Net dlr.	Incl. tax	tank wag.
Atlanta, Ga.	17.0	17.0	7.0	10.0
Augusta	17.5	17.5	7.0	10.0
Macon	16.5	16.5	7.0	10.5
Savannah	16.5	16.5	7.0	9.0
Birmingham, Ala.	18.5	18.5	8.0	9.0
Mobline	18.5	18.5	9.0	8.0
Montgomery	19.5	19.5	9.0	11.0
Jackson, Miss.	16.0	16.0	7.0	10.0
Vicksburg	16.5	16.5	7.0	9.5
Jacksonville, Fla.	17.0	17.0	8.0	8.0
Miami	17.0	17.0	8.0	8.0
Pensacola	18.5	18.5	9.0	8.5
*Tampa	21.0	18.0	8.0	8.0
Lexington	16.5	16.5	6.0	10.0
Covington	15.0	15.0	6.0	9.5
Louisville	15.5	15.5	6.0	9.0
Paducah	15.5	15.5	6.0	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

*Temporary discounts to tank-wagon consumers in Tampa 3 cents per gallon below consumer tank-wagon price on Crown gasoline.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Cons'r tank car	Dir. tank wag.	Incl. tax	tank wag.
Albany	12.6	14.2	5.0	8.30
*Met. N. Y.: Manhat, Bronx, Queens, Br'klyn., Staten Island	12.7	13.7	5.0	8.50
Buffalo	13.1	14.5	5.0	7.60
Rochester	13.3	15.0	5.0	8.40
Syracuse	13.2	14.5	5.0	8.30
Portland, Me.	12.6	14.4	5.0	8.50
Manchester, N. H.	13.3	15.3	5.0	8.90
Burlington, Vt.	13.1	15.0	5.0	8.70
Boston, Mass.	11.5	13.0	4.0	8.50
Worcester	12.1	13.5	4.0	8.40
Hartford, Conn.	11.9	13.3	4.0	8.40
New Haven	11.8	12.8	4.0	7.50
Providence, R. I.	11.5	13.3	4.0	8.50

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gal. and under, tank-car price plus 2 cents per gallon; annual purchases 10,000 gal. up to 50,000 gal., tank-car price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gal., tank-car price plus 1 cent per gallon; annual purchases 200,000 gal. and over, tank-car price plus ½ cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gal. receive a discount of ½ cent per gallon.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Cons'r tank car	Dir. tank wag.	Incl. tax	tank wag.
Philadelphia, Pa.	12.5	14.0	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	13.0	14.5	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	12.5	15.0	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.		13.5	5.0	10.5
Wilmington		14.0	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank truck	Serv. sta.	Incl. tax	tank wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes 0.25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wag.	Dir.	Incl. tax	tank wag.
Denver, Colo.	15.5	...	5.0	11.5
Grand Junction	17.5	...	5.0	15.0
Pueblo	15.0	...	5.0	9.0
Casper, Wyo.	17.5	...	5.0	11.5
Cheyenne	15.5	...	5.0	13.0
Billings, Mont.	18.5	...	6.0	13.0
Butte	20.0	...	6.0	15.5
Great Falls	19.5	...	6.0	15.5
Helena	20.5	...	6.0	15.5
Salt Lake, Utah	15.5	15.5	5.0	16.0
Boise, Idaho	21.1	21.1	6.0	18.0
Twin Falls	21.1	21.1	6.0	18.0
Albu'que, N. M.	17.0	17.0	6.5	10.0
Roswell	16.0	16.0	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wag.	Dir	Incl. tax	tank wag.
Texarkana, Ark.	13.0	...	5.0	7.0
Fort Smith	14.5	...	5.0	7.5
Little Rock	17.25	...	7.5	8.0
Muskogee, Okla.	13.0	12.0	3.0	7.0
Oklahoma City	11.0	...	5.0	6.5
Tulsa	11.0	...	5.0	7.0

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Cons'r tank car	Dir. tank wag.	Incl. tax	tank wag.
New Orleans, La.	15.25	17.75	8.0	†11.0
Baton Rouge	15.25	17.75	8.0	†10.5
Alexandria	15.25	17.75	8.0	†12.5
Lafayette	15.00	18.00	8.0	†11.0
Lake Charles	15.25	17.75	8.0	†12.5
Shreveport	14.00	16.50	8.0	†11.0
Knoxville, Tenn.	18.00	20.50	8.0	13.0
Memphis	16.00	18.50	8.0	11.0
Chattanooga	17.50	20.00	8.0	13.0
Nashville	17.00	17.50	8.0	11.0
Bristol	18.25	17.75	8.0	13.0

Esolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Dir.	Incl. tax	tank wag
Omaha	16.5	13.5	6.0	9 8
McCook	16.5	13.9	6.0	9.0
Norfolk	16.5	14.4	6.0	9.5
North Platte	17.8	14.9	6.0	10.0
Scottsbluff	18.5	15.5	6.0	11.4

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline			Kero.
	Tank wag.	Dir.	Incl. tax	tank wag.
Dallas, Tex.	12.0	16.0	5.0	7.0
Fort Worth	12.0	16.0	5.0	8.0
Houston	14.0	18.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Tank wag.	Incl. tax	Kero. tank wag.
Halifax, N. S.	24.5	10.0	18.5
St. John, N. B.	24.5	10.0	18.5
Montreal, Que.	23.5	8.0	16.0
Toronto, Ont.	23.5	8.0	16.0
Hamilton, Ont.	23.5	8.0	16.0
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	25.5	7.0	20.5
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.9
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Kentucky) January 29 advanced tank-wagon kerosene 2 cents in Atlanta and Augusta.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of February 6, 1940

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.03⅝	.03⅜
63-66 octane	.03⅞	.04
67-69 octane	.04⅛	.04⅛
70-72 octane (regular)	.04⅜	.04½
60-62 400 grades:		
62 octane and below	.03⅝	.03⅜
63-66 octane	.03⅞	.04
67-69 octane	.04⅛	.04⅛
70-72 octane (regular)	.04⅜	.04½
68-70 360	.04⅝	.04⅝

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.03⅝	.03⅜
63-66 octane	.03⅞	.04
67-69 octane	.04⅛	.04⅛
70-72 octane (regular)	.04⅜	.04½
60-62 400	.03⅝	.03⅜

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04¼	.04½
63-66 octane	.04⅜	.04⅝
70-72 octane (regular)	.04⅞	.05⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.04¼
70-72 octane (regular)		.05⅛

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.03¾	.04
63-66 octane	.04	.04¼
67-69 octane	.04¼	.04½
70-72 octane (regular)	.04½	.04¾
60-62 400 grades:		
62 octane and below	.03¾	.04
63-66 octane	.04	.04¼
67-69 octane	.04¼	.04½
70-72 octane (regular)	.04½	.04¾
68-70 360	.04¾	.04⅞

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor	.04¼	.04½
65 octane	.06¼	.06⅝
72-74 octane (regular)	.06½	.06¾

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.05¾	.07
58-60 400, 65 oct. and higher	.07	.08

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.07
Philadelphia	.06½	.06¾
Boston	.06¾	.07
Baltimore	.06½	.07
Charleston, S. C.	.06¾	.07¼

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
65-67 octane	.04⅝	.04¾
68-70 octane	.04¾	.05
70-72 octane (leaded)	.05	.05¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02
Grade 18-55	.02⅝	.02⅝

NORTH TEXAS—

Grade 26-70		.01⅝
Grade 18-55		.02⅛

CALIFORNIA—

75-85 375-390	.05¾	.06

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.02⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03¾	.03⅞
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03¾	.03⅞
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.04	.04⅛

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03¾	.03⅞
42-44	.03⅞	.04

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03⅛	.03⅜

ARKANSAS (Ark. and N. La. del.)—

41-43		.03⅜

PENNSYLVANIA (inland refineries)—

45	.04⅞	.05⅛
46	.05	.05¼
47	.05⅛	.05⅜

CHICAGO (Based on Group 3)—

41-43	.03¾	.03⅞
42-44	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05¾

NEW YORK (Bayonne, N. J.)—

41-43	.05½	.06½

***GULF COAST (domestic)—**

41-43		.04½

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03¾	.04
No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅞	.03⅞
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03⅝	.03½
No. 3 zero to 10, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02¾	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03⅛	.03¼

ARKANSAS (Ark. and N. La. del.)—

No. 2 32-36		.03⅜

CHICAGO (Based on Group 3)—

Range oil	.03¾	.03⅞
No. 1 prime white, 38-40	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03⅝	.03½
No. 3, zero to 15, 28-32	.03¾	.03½
No. 3, 15 and above, 28-32	.02¾	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.055	.065
*No. 2	.051	.056
*No. 4	.051	.056

*Barge deliveries ⅛ to ⅛ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.70	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.75	.80
No. 6, 15 and above, 8-14	.50	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02¾
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.50	.55

PENNSYLVANIA (inland refineries)—

36-40	.04	.04½

CALIFORNIA—

Los Angeles:

30-40 gas oil, per bbl.	1.15	1.25
24 plus diesel, per bbl.	1.15	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.65	.75
10-16 (cargo lots)	.65	.75
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65

San Joaquin Valley:

10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.15	1.25

San Francisco:

24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel		.04¼
43-47 diesel		.04
48-52 diesel		.04¼
53-57 diesel		.04½
58 and above diesel		.04¾
Bunker C (bulk cargoes)	.97	1.05
Bunker C (bunkers)	.90	.95

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.051	.052
28-30 diesel (lighterage 6¼c per bbl.)	2.10	2.20
28-30 diesel (tank cars)	.05	.052
Bunker C (to ocean-going ships in N. Y. harbors)	.05	.052
Industrial fuel (tank cars)	.035	.0375

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.28
150-160 D, 0-10		.25
150-160 D, 15-25		.24
150-160 E, 15-25		.24
100-110 D, 0-10		.24
Steam refined:		
600 dark green (untreated)		.08

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):

10 pour point	.29½	.33
15 pour point	.28½	.31
25 pour point	.27	.29
Steam refined:		
600	.16½	.17½
650	.18½	.19½
600 flash	.19	.20
630 flash	.22	.24

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:

150-3	.13
180-3	.14
180-4	.13½
200-3	.14½
200-4	.14
250-3	.16
250-4	.15½
280-3	.17
280-4	.16½
300-3½	.17½
400-3½	.18½
100-2½ paraffin oil	.07½

15-25 pour point:

200-3	.14
200-4	.13½
250-3	.15½
250-4	.15
280-3	.16½
280-4	.16

GULF COAST—

Pale oils:

200-3	.07¼	.07½
300-3	.07¾	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09¾	.10
2,000-4		.10¼

Red oils:

200-5-6	.07	.07¼
300-5-6	.07½	.07¾
500-5-6	.08¼	.08¾
750	.08¾	.09¼
1,200-5-6	.09¾	.09¾

CALIFORNIA (moving to dom. market)—

Pale oils:

100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11

Red oils:

200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.30
10 pour point		.29
15 pour point		.28
25 pour point	.26½	.28¼
200 vis. at 70° F., 3 color:		
Zero pour point		.32
10 pour point		.31
15 pour point		.30
25 pour point	.28½	.30½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.06	.06½

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.05⅝	.06
124-126 (A.m.p.) w.c. scale	.05⅝	.06⅛

NEW YORK—

Wax in bags fully refined:

125-127 (A.m.p.) wax	.0575	.0600
128-130 (A.m.p.) wax	.0600	.0625
130-132 (A.m.p.) wax	.0625	.0635
133-135 (A.m.p.) wax	.0635	.0650
135-137 (A.m.p.) wax	.0650	.0675

Crude scale:

124-126 (A.m.p.) w.s.	.0550	.0575
124-126 (A.m.p.) y.s.	.0550	.0575

Petrolatum in barrels, carload lots:

Dark green	.03500	.03625
Amber	.03625	.0400
Extra amber	.03875	.0425
Lily white	.06625	.0700
Snow white	.07625	.0800
Cream	.05625	.0600

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05½	.05⅝
60-62 400	.05¼	.06¼
61-63 390	.05¼	.06¼
64-66 375	.05⅝	.06¼

LOS ANGELES—

U. S. Motor grades:		
60-65 octane	.05½	.05⅝
65-69 octane	.05⅝	.06¼
Above 69 octane	.06¼	.06½

KEROSENE

GULF COAST—

41-43 water white	.04¼	.04⅜

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s.) in bbl.)—

Cylinder stocks:

600 S.R. unfiltered	.23	.24
630 S.R. unfiltered	.25	.26
600 flash, S.R.	.26	.28½
630 flash, S.R.	.32	.33
Bright stock:		
Light, 25 pour point	.36	.38

NEUTRAL OIL

200-3 color	.38	.38½
150-3 color	.36	.37

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.	.0600	.0625
125-127 A.m.p.	.0650	.0675
128-130 A.m.p.	.0700	.0725
133-135 A.m.p.	.0750	.0775
135-137 A.m.p.	.0800	.0850
Crude scale:		
124-126 w.s.	.055	.05750
124-126 y.s.	.055	.06625

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939-1940 High	1939-1940 Low	Week ended Feb. 3 High	Week ended Feb. 3 Low	Week ended Feb. 3 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1938	Com. sh. earn. 1937	1939 High	1939 Low	1938 High	1938 Low
74½	50	54¼	53¼	53¼	Amerada Corp.	788,675	N.P.	50cQ	1-31-40	$2.00	$2.07	$3.04	74½	50	78	55
24⅞	18⅛	21⅝	20⅞	21⅝	Atlantic Refining	2,663,999	$25	25cQ	3-15-40	1.00	1.40	3.51	24¾	18⅛	27⅜	17¾
21½	10¼	14½	14¼	14¼	Barber Asphalt Co.	390,223	$10	25c	2-20-40	.25	—.85	1.91	21	10¼	23¾	12⅛
19⅛	11⅛	12⅜	12	12	Barnsdall Oil Co.	2,250,344	$5	15c	3-9-40	.90	1.26	.85	19½	11⅛	21⅜	10⅛
9⅞	6½	7⅜	7	7¼	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	2-15-40	.80	.55	1.48	9⅞	6½	10⅜	7
31½	19⅞	24¾	23⅝	24½	Continental Oil of Delaware	4,682,581	$5	25cQ	3-25-40	1.00	1.10	2.98	31½	19⅞	35¾	21¼
9⅜	4½	6	5⅝	5¾	Houston Oil	1,098,618	$25	....	10-17-30	....	.83	.94	9⅜	4½	9¾	5
20¼	10	13	12½	12⅞	Lion Oil Refining	435,815	N.P.	25cQ	12-23-39	1.00	2.09	2.17	18⅛	10	25⅛	15⅝
18	11⅛	14⅜	13⅞	14¼	Mid-Continent Petroleum	1,857,912	$10	35c	12-1-39	.60	.56	2.86	18	11⅛	22⅝	12¼
14⅞	8¾	9¾	9¾	9¾	Mission Corporation	1,379,245	$10	40c	12-15-39	.65	1.04	1.31	14⅞	8¾	17⅜	10⅝
15½	5⅝	9¼	8½	8½	National Supply	1,155,517	$10	....	12-22-37	....	—.79	4.90	15½	5⅝	23	12½
10½	6	7⅛	6¾	7	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	....	.25	1.30	10½	6	14⅞	8⅞
11⅞	7	7½	7½	7½	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.40	1.22	1.39	11⅞	7	15⅞	10¼
8¾	5	7¼	7¼	7¼	Pan American Pet. & Trans.	4,702,945	$5	....	12-31-37	....	.08	1.18	8¾	5	9¼	6¼
46½	31¼	40⅜	38½	39¼	Phillips Petroleum	4,449,052	N.P.	50cQ	3-1-40	2.00	2.03	5.42	46½	31¼	44⅜	27¼
24	17⅛	21	20⅝	20⅝	Plymouth Oil Co.	1,006,200	$5	35cQ‡	12-31-39	$1.40	2.59	2.85	24	17⅛	25⅝	15
11¾	6⅛	8¾	8¼	8¼	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	.25	.38	2.15	11¾	6¼	13½	8¼
10¼	6⅝	7⅜	7⅛	7¼	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.51	.35	10¼	6⅝	9⅞	5
24⅜	15½	18⅞	18⅞	18⅞	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	3-15-40	1.00	1.52	1.97	24⅜	15½	27½	15½
17¼	9⅞	11⅝	10⅞	11¼	Shell Union Oil	13,070,625	N.P.	25c	12-20-39	.50	.72	1.44	17¼	9⅞	18⅜	10
29½	15½	20	19⅝	20	Skelly Oil	995,349	$15	25c	1-30-40	.75	2.27	6.07	29½	15½	34¾	18½
15⅛	10¼	11⅞	11½	11⅝	Socony-Vacuum	31,206,071	$15	25cSA	9-15-39	.50	1.29	1.82	15⅛	10¼	16⅜	10⅝
33⅝	24¼	25⅛	24¼	24¼	Standard Oil of California	13,004,153	N.P.	25cQ	3-15-40	1.10	2.22	3.17	33⅝	24¼	34⅞	25⅛
30	22¾	26½	26¼	26⅜	Standard Oil (Indiana)	15,272,020	$25	25c	3-15-40	1.25	1.82	3.66	30	22¾	35½	24⅝
53½	38	44	43	43¾	Standard Oil of New Jersey	26,618,065	$25	75c¶	12-15-39	¶1.25	2.86	5.64	53½	38	58⅜	39⅜
66	45⅜	59¾	59¼	59¾	Sun Oil	2,316,484	N.P.	25c*	3-15-40	1.00	1.07	3.86	66	45⅜	65⅛	45
3⅝	1⅜	2⅛	2	2⅛	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	....	.24	.32	3⅝	1⅜	4¼	1⅜
50¾	32½	43¼	42⅜	43	Texas Corp.	10,876,882	$25	50cQ	1-2-40	2.00	2.13	5.02	50¾	32½	49⅝	32⅝
5⅝	3¼	3⅝	3½	3⅝	Texas Gulf Producing Co.	888,146	N.P.	10c	12-15-39	.20	.86	.68	5¾	3¼	5⅞	2⅝
11⅜	7	8	7¾	7¾	Texas Pacific Coal & Oil	888,236	$10	10c	12-1-39	.40	1.16	1.11	11⅜	7	12½	7
14¼	9½	10½	10	10⅛	Tide Water Associated	6,375,253	$10	15c	3-1-40	.80	1.28	2.08	14¼	9½	15⅜	10⅛
19¾	15⅛	16½	16⅛	16⅛	Union Oil Co. of California	4,666,270	$25	25c	11-10-39	1.05	1.47	2.58	19¾	15⅛	22⅛	17⅛
25¾	20⅛	25¾	24½	24¾	Union Tank Car Co.	1,177,381	N.P.	40c†	12-1-39	1.30	1.16	1.70	24¼	20⅛	23½	20
4½	2⅜	..	..	..	Wilcox Oil & Gas	487,568	$5	10c	2-15-40	....	.52	.24	4¼	2⅜	3½	1⅝

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. §Also 4 per cent in stock. ‖Also 2½ per cent in stock. ¶Also 1½ per cent in stock. —Deficit.

New York Curb Exchange

1939-1940 High	1939-1940 Low	Week ended Feb. 3 High	Week ended Feb. 3 Low	Week ended Feb. 3 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1938	Com. sh. earn. 1937	1939 High	1939 Low	1938 High	1938 Low
11¾	5½	6¾	6⅛	6½	American Republics Corp.	1,308,049	$10	10c	7-11-38	....	—$0.22	$0.27	11¾	5½	11¾	5
7¼	2½	2⅞	2¾	2⅞	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37	....	—.14	1.90	7¼	2½	10¼	4⅞
35	26½	35	34½	35	Buckeye Pipe Line Co.	200,000	$50	$1	3-15-40	$2.50	2.36	4.02	34⅜	26½	39	22½
130	108⅝	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	12-18-39	6.00	5.32	6.73	130	108⅝	128	97
9¼	4	4½	4	4⅛	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	9¼	4¼	11	5⅛
2¼	½	1⅜	1⅜	1⅜	Cosden Petroleum	462,551	$1	....	.....	.....	....	.19	2¼	½	2⅜	⅞
28	16¾	20¾	20	20¾	Creole Petroleum	6,975,383	$5	50cSA†	12-15-39	1.00	1.64	1.61	28	16¾	27½	17½
7½	3⅝	4¼	4¼	4¼	Darby Petroleum	351,390	$5	25cSA	1-15-39	.25	....	1.36	7⅛	3⅝	10¼	5½
2⅝	1½	1⅝	1⅝	1⅝	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.91	1.34	2⅝	1½	3½	1½
24½	15⅛	24½	24½	24½	Eureka Pipe Line	50,000	$50	50c	11-1-39	2.00	—.37	—.12	23	15⅛	31	16
45⅛	29¼	37	35½	35½	Gulf Oil Corp.	9,076,202	$25	25cQ	12-15-39	1.00	1.43	3.51	45⅛	29¼	46⅞	33
71	52½	62¼	60⅞	62¼	Humble Oil & Refining	8,987,840	N.P.	62½c	12-16-39	2.00	3.98	5.22	71	52½	72⅝	56
17	11⅜	12	11⅜	12	Imperial Oil of Canada	26,965,078	N.P.	37½c†	12-1-39	1.00	.96	.98	17	11⅜	19½	14⅛
7¼	5½	..	..	..	Indiana Pipe Line	300,000	$10	20c	11-15-39	.50	.47	1.03	7¼	5½	9⅜	6
27½	17	18	17¾	18	International Petroleum	14,324,088	N.P.	75c	12-1-39	1.75	1.98	....	27½	17	31¼	21
3¾	2½	..	..	..	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	....	.14	.17	3¾	2½	5	2⅛
10½	7⅛	..	..	..	Lone Star Gas	5,553,747	N.P.	30c	12-22-39	.70	.88	1.14	10½	7⅛	10⅜	6⅝
7¾	4	9⅞	9⅝	9¾	Louisiana Land & Exp.	2,977,449	$1	5c	12-15-39	.35	.45	.58	7¾	4	9⅜	6½
17	14½	5¼	5	5	Margay Oil Corp.	149,943	N.P.	25cQ	1-10-40	1.00	2.28	3.26	17	14½	24	16
8¾	6⅝	7¾	7⅝	7¾	Midwest Oil Co.	998,474	$10	45c	12-15-39	.90	.93	1.14	8¾	6⅝	9¾	6⅝
6	4⅞	5⅝	5¼	5¼	Mountain Producers	1,593,584	$10	30cSA	12-15-39	.60	.62	.76	6	4⅞	5⅝	4½
14	11¼	12⅝	12¼	12⅝	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-40	1.00	.84	.96	14	11¼	14⅝	11½
10	7¼	9¾	9¾	9¾	National Transit	509,000	$12.50	50c	12-15-39	.85	.88	1.19	9½	7¼	9¼	6½
1⅜	1	1⅛	1⅛	1⅛	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	1⅜	1	2⅝	1½
6¼	4	6	5⅞	6	New York Transit	100,000	$5	25c	10-14-39	.40	.16	.49	6	4	4½	3½
7	4½	..	..	..	Northern Pipe Line	120,000	$10	15c	12-1-39	.30	.24	.78	7	4½	6	4
7⅝	4	4⅞	4⅝	4⅝	Pantepec Oil	2,857,000	$1	....	.....	....	....	....	7⅝	4	7⅜	3½
5	1¼	..	..	..	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	5	1¼	4½	1⅝
3	1⅜	..	..	..	Ryan Consolidated	298,931	N.P.	....	.....	....	.29	.46	3	1⅞	4	2¼
6	3½	6	5¾	5⅞	Southern Pipe Line	100,000	$10	15c	3-1-40	.30	—.27	.85	4⅞	3½	5⅜	3¼
44	26¾	42¼	41½	42¼	South Penn Oil	1,000,000	$25	$1.87½Q†	12-15-39	3.00	1.44	4.64	40½	26¾	39	28¾
24	17	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	12-26-39	2.00	—.41	.95	23	18	22¼	16½
20⅝	17¼	20⅝	20⅛	20½	Standard Oil of Kentucky	2,604,780	$10	55c†	12-15-39	1.30	1.45	1.60	20⅛	17¼	18⅜	15
32¾	17	29	29	29	Standard Oil of Ohio	753,740	$25	25c	3-15-40	1.50	1.81	3.67	32¾	17	22⅜	16¼
2¾	1¾	1¾	1¾	1¾	Sunray Oil	2,007,076	$1	5c	12-20-39	.10	.23	.42	2¾	1¾	3¼	2
4	2⅝	2¾	2⅝	2¾	Texon Oil & Land	936,024	$2	10c	6-30-39	.10	.56	.51	4	2⅝	5¼	3½
6	2½	3⅛	3	3	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	6	2½	7⅝	4¼
3⅜	1½	1¾	1½	1½	United Gas Corp.	7,818,959	$1	....	.....	....	—.51	.25	3⅜	1½	5¼	2⅝

†Includes extras. —Deficit.

EQUIPMENT PROGRESS...

Polished-Rod Scaffold Fits Old Rods as Well as New Ones

The Bastain polished-rod scaffold, manufactured by A. D. Larson Supply Co., P. O. Box 4325, Oklahoma City, Okla., is so made that it fits worn polished rods as well as new ones.

Points of contact with polished rod are smooth. Therefore it will not cut into or roughen up the rod. The step, or handle, is made rough on top, so there is less likelihood of a man's foot slipping off than is encountered when the ordinary pipe is used for a scaffold. Steps are made both with a double square wrench head to fit square-head, polished-rod grip bolts, and without the wrench head.

This tool is made of high-grade cast steel. It is light in weight but has strength enough to hold up several men. It is easy to put on and off the polished rod and can be moved up and down the rod with ease. However, it will not slip while weight is applied to the step, and it cannot come off the rod by accident.

Vapor Separator Is Fabricated for National Refining Co.

The illustration shows a vapor separator built recently for National Refining Co., in Findlay, Ohio, by Chicago Bridge & Iron Co., Chicago. This structure is 9 ft. in diameter and 40 ft. high. It has an ellipsoidal top and bottom, with a skirt plate to support the structure. The vessel was fabricated in accordance with paragraph U-69 of the A.S.M.E. code for unfired pressure vessels at the Chicago Bridge & Iron Co.'s plant in Birmingham, Ala.

This new separator is designed to operate at 60 lb. per sq. in. The vessel was stress-relieved before it was shipped from the Birmingham plant.

Wizard Pilot Controllers Have Throttling-Range Adjustment

A built-in throttling range, adjustable from 1 to 75 per cent of the tube range, is a conspicuous feature of the new Wizard pilot-control valves, Series 4300 and 4100, for direct and remote-control mountings respectively, announced by Fisher Governor Co., Marshalltown, Iowa.

Adjustment mechanism is easily accessible and can be changed readily by means of a thumb screw without the use of tools. Pressure setting is controlled by a vernier screw, which does not require a key or wrench for adjustment. Bourdon tubes are large and highly sensitive, available in either bronze or steel. These controllers can be changed easily from direct-acting to reverse-acting or vice versa without changing the bourdon tube positions or disturbing control-pressure connections.

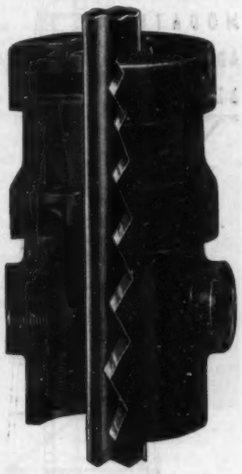
Escape From Noise Gained by Burgess Telephone Booth

A new model of the Burgess acoustical telephone booth, replacing the old Model 201, is announced by Burgess Battery Co., acoustic division, Department NR, 500 West Huron Street, Chicago. The new Model 204 booth is designed to provide a zone of quiet for telephones in noisy locations.

The new model, like other Burgess acoustical booths, has no doors. It is lined with a heavy layer of sound-absorbing material protected by perforated steel facing developed by the Burgess laboratories. Owing to its patented acoustical construction, noises and disturbances are absorbed so completely by the lining that telephone calls can be made without interruption. Conversations in ordinary tones are not heard outside the booth, assuring privacy. Added advantages are ample ventilation, due to its open construction and freedom from door troubles.

Interchangeable Tubing Head Offered in Five Basic Types

An interchangeable tubing head announced by Larkin Packer Co., 6200 Maple Avenue, St. Louis, Mo., is offered in five basic types: (1) Model SR, with blowout preventer for high-pressure work; (2) Model R, regular slip-type, for low-pressure or pumping wells; (3) Model M, mandrel type; (4) Model FR, flanged slip-type; (5) Model FM, flanged mandrel-type head.

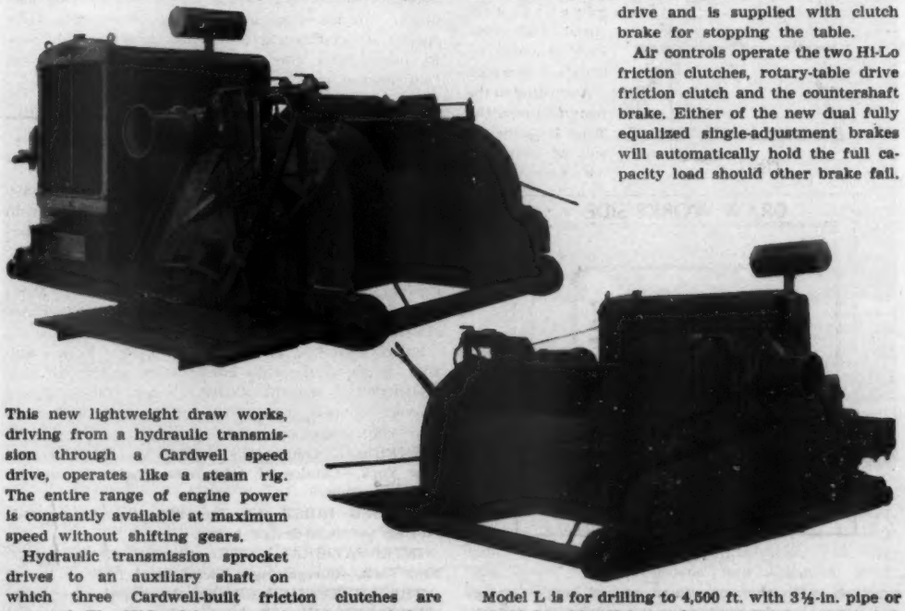


All parts for one head will fit any other because they are made with jigs which insure precision in manufacture. The head body can be threaded for either 5½-in. or 7-in. o.d. casing and all parts of heads threaded for 5½-in. o.d. can be used on heads threaded for 7-in. o.d. Internal construction is such that the inside diameter is the same as that of the pipe on which the head is run so that any packer or tools that will run in the pipe will go through the head.

The Model SR head is equipped with a neoprene stripper and blowout preventer, designed to hug the tubing closely so that the tubing can be run under considerable pressure. The oil and wear-resistant qualities of neoprene add to its value as a stripper and blowout preventer.

BUILT FOR SLIM-HOLE DRILLING AND WORKOVER JOBS

Cardwell Manufacturing Co., Wichita, Kans., has added to its line the Model L draw works, developed especially for slim-hole drilling and workover jobs.



This new lightweight draw works, driving from a hydraulic transmission through a Cardwell speed drive, operates like a steam rig. The entire range of engine power is constantly available at maximum speed without shifting gears.

Hydraulic transmission sprocket drives to an auxiliary shaft on which three Cardwell-built friction clutches are mounted. The Hi-Lo drive, consisting of two of these clutches with sprockets driving to the countershaft, makes it possible to double the line speed instantly. The third friction clutch operates the rotary-table drive and is supplied with clutch brake for stopping the table.

Air controls operate the two Hi-Lo friction clutches, rotary-table drive friction clutch and the countershaft brake. Either of the new dual fully equalized single-adjustment brakes will automatically hold the full capacity load should other brake fail.

Model L is for drilling to 4,500 ft. with 3½-in. pipe or to 3,500 ft. with 4½-in; workovers 8,000 ft., 2½-in. used.

Improved Type Emsco Derrick Permits Racking More Pipe

In the latest designed Type R Emsco steel derrick, optional side elevation of which is shown here, the manufacturer claims a decided improvement over previous types designed to provide greater pipe-racking capacity without resorting to higher derricks.

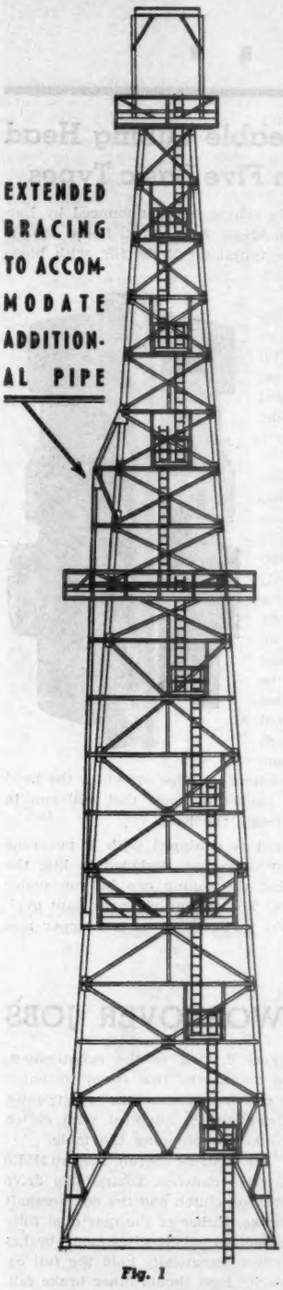


Fig. 1

This increased racking area is made possible in the Type R by an optional special setback extension outside the derrick legs, as illustrated in detail by Fig. 1. It is accomplished without sacrificing strength, rigidity, or the high factor of safety essential in modern deep-drilling procedure. In all other respects the derrick is standard, with standard base and crown, permitting the use of standard construction procedure, standard substructures, and standard equipment throughout.

The patented extension permits racking from 33⅓ to 50 per cent more pipe than is possible in a conventional derrick, as shown by Fig. 2. It can be provided for derricks of any size. There is ample working space at all points inside the derrick when larger quantities of pipe are racked, so that the new design embodies all the advantages of speed and economy provided by standard derricks.

According to the manufacturer, the Type R is the result of continued deeper drilling practices, with the consequent use of longer strings and larger, heavier equipment throughout the derrick, all of which has reduced the available space in standard rigs. The company has been perfecting and field-proving the special setback extension for several years, and it is now available for the Type R derrick as optional in all sizes and capacities. Complete details may be obtained by communicating with Emsco Derrick & Equipment Co., Los Angeles, Calif., Houston, Tex., or Dallas, Tex.

Fig. 2

Builds Distributor Organization

Reflecting the growing demand for diesel power for small-truck applications, Hercules Motors Corp., Canton, Ohio, has built up a distributor organization for the sale and installation of its diesel replacement unit for the Ford truck chassis. The Hercules complete "packaged" unit can be installed readily in the Ford truck chassis of the years 1935 to 1940, including left-hand drive cab-over-engine models, without any major alterations in the chassis. While Ford Motor Co. uses the identical packaged unit in chassis built for export, a diesel-equipped truck is not offered by Ford in the domestic market or in Canada. All Ford dealers, however, are in position to supply the Hercules diesel.

Ryerson Building Big All-Steel Addition to Its Chicago Plant

A modern all-steel building is nearing completion at the Chicago plant of Joseph T. Ryerson & Son, Inc. The new building, 75 by 555 ft., will increase the total

floor space to over 650,000 sq. ft. The business began with a humble two-story iron and steel store built in 1842 by Joseph T. Ryerson.

The new span, with its 46,000 sq. ft. of floor space, is to form part of a department now containing over 300,000 sq. ft. and will be used for storing hot-rolled steel bars, shapes, and plates. It will be served by two new 15-ton cranes and direct railroad sidings, thus adding to the plant's shipping, receiving and handling facilities. In addition to the new unit, an extension has been erected on a 100-ft. span in the concrete reinforcing-steel section. This increases facilities for handling and racking extra-length stock.

Eight protected railroad sidings permit 47 freight cars to be loaded or unloaded under roof at one time without subjecting stock to the weather. Big steel buildings of the type being constructed provide adequately for hot-rolled bars, shapes, plates, etc., while special air-conditioning units safeguard the high quality and surface finish of sheets, mechanical tubing, cold finished bars, and other special steels.

TRADE LITERATURE

BABCOCK & WILCOX TUBE CO., Beaver Falls, Pa. Technical data card 3, showing decimal equivalents in average wall and minimum wall for fractional inches and Birmingham wire gage.

BAKER OIL TOOLS, INC., Huntington Park, Calif. Current number the Baker-Cement Retainer News Service, "Selection of Cement for Cement-Retainer Application."

ENGINEER CO., 17 Battery Place, New York.—Bulletin, boiler baffle walls construction and repair.

HERCULES MOTORS CORP., Canton, Ohio.—16-page booklet, concise explanation of modern high-speed heavy-duty diesel engines.

AMERICAN LOCOMOTIVE CO., 30 Church Street, New York.—Catalog of Alco diesel engine for universal application.

COFFING HOIST CO., Danville, Ill.—Catalog G-1, Coffing advanced-design hoists.

INTERNATIONAL NICKEL CO., INC., 67 Wall Street, New York.—Current issue Nickel Steel Topics.

THE LUNKENHEIMER CO., Cincinnati, Ohio.—Circular 504-RL, "King-city" gate valve.

Ends Need of Removing Drum Flange From Draw Works

Eliminating the necessity of removing rotary drum flanges from the draw works or the drum, a portable flange grinder has been developed by engineers of Patterson-Ballagh Corp., 1900 East Sixty-fifth Street, Los Angeles, Calif. It is a simple, rugged unit that will hold a close adjustment under heavy oil-field duty, and

it can be operated by the regular drilling crew. By its use flanges can be grouped when the first grooving takes place. Thus a saving is effected in brake lining. The machine is a portable double grinding unit with two carriages operated like a lathe.

Independently operated carriages travel lengthwise on large common cross-shafts or slide rails. Each carriage mounts a 14-in. grinding wheel, individually housed, equipped with safety glass windows and lighting fixtures. The countershaft, located in the center of the unit and running parallel to the drum shaft, drives both grinding wheels at the same speed. Each grinding wheel can be moved to the right or left, advanced or returned, independently of the other wheel. Grinding is absolutely parallel to the drum shaft at all times. Alignment is accurately maintained.

The unit is driven by any portable gas engine of 10 hp. or more, or by an electric motor. The shipping weight of the complete machine is 1,400 lb.

New Safety Joint for Drilling or Fishing String Is Developed

A recent addition to the line of fishing tools and specialties announced by S. R. Bowen Co., Santa Fe Springs, Calif., is a safety joint for use in the drilling or fishing string. This joint has features contributing to safety and positive operation.

Simple construction and foolproof operation are said to insure that the string can be disconnected quickly at the joint and be reengaged at will. The tool has only two steel parts—a pin and a box section—equipped with high-pressure packer rubbers which seal off fluid inside and outside the string under any pressure. Outside diameters and fluid passages on all joints are the same as tool joints of corresponding sizes, thus in no way interfering with running wire-line instruments, etc., through the drill pipe.

Nothing but definite mechanical actions, controlled by the operator, will cause the joint to come apart in the string. In fact, it is so constructed that rough drilling or excessive vibration actually tends to make the tool-up tighter. Bit or drill-collar inertia while rotating out of the hole will not affect the makeup of the joint. The two halves are in constant tight engagement, permitting no wear. The Bowden safety joint is made of selected alloy steel, heat-treated to withstand greater tensile or torsional strain than the string with which it is used. It requires only periodic inspection.

AMONG EQUIPMENT MEN...

Robbins Heads Tulsa Club

E. E. Robbins, manager of sales, Tulsa, for Oil Well Supply Co., has been elected president of the Tulsa Club. Mr. Robbins, who had been a member of the board of governors 2 years, succeeds R. W. McDowell, vice president Mid-Continent Petroleum Corp. F. E. McMillin, Loual Drilling Co., was chosen first vice president; S. G. Sanderson, general superintendent Gulf Oil Corp., second vice president; M. S. Patton, president, Hurley Gasoline Sales Co., secretary and chairman of the house committee; L. F. McCollum, vice president, Carter Oil Co., treasurer. The board of governors consists of Burtner Fleeger, president, Oklahoma Steel Castings Co.; H. L. Sullivan, vice president, Loffland Brothers Co.; W. K. Whiteford, vice president, British American Oil Producing Co.; R. O. Dietler, vice president, Stanolind Oil Purchasing Co.; W. Frank Walker, president, Alvin Hotel Co., and R. W. McDowell.

Estes With South Chester Tube

L. A. Estes has been appointed executive vice president and general manager of South Chester Tube Co. and of its subsidiary, South Chester Terminal & Warehousing Co., of Chester, Pa. Mr. Estes goes to the South Chester Tube Co. from Carnegie-Illinois Steel Corp., Pittsburgh, Pa., where he was manager of the commercial division.

Before his connection with Carnegie-Illinois, Mr. Estes was affiliated for many years with Truscon Steel Co.

BUSINESS NOTES

Frick-Reid Supply Corp.'s oil and gas-field supply business in Pittsburgh, Pa., is now under the management of Frank M. Fisher, who has been appointed district sales manager. The company's industrial supply business in Pittsburgh and its nipple manufacturing business in Neville Island, Pa., have been sold and will not be affiliated in any way with Frick-Reid..

The Pittsburgh Crucible Steel Co., Pittsburgh, Pa., with mills in Midland, Pa., has appointed Williams & Kilsby, Los Angeles, Calif., exclusive Pacific Coast representative for the sale of its products in California, Oregon, and Washington.

Donald J. Reese, of the development and research division of the International Nickel Co., Inc., will deliver five talks during February on "Cupola Operation," before foundry groups in Denver, Colo., and on the West Coast.

James A. Fenwick and Frank F. Fenwick have purchased the business formerly conducted by Fenwick-Reddaway Manufacturing Co. and will operate it under the name Fenwick Manufacturing Co., with principal offices at 134 Rome Street, Newark, N. J.

D. L. Davis, formerly with General Machine & Tool Co., Wichita, Kans., as assistant to the general manager, has joined Hercules Supply Co., Fort Worth, Tex., as credit manager and assistant to J. T. McCarthy, Jr., active head of the company.

Russell H. Dragsdorf has been named manager of the Chrysler Corp.'s new Dodge truck plant in Detroit, Mich., succeeding the late R. M. Hidey. Mr. Dragsdorf, who was Dodge truck plant engineer and labor relations supervisor, has been with the company 22 years.

W. W. Williams has resigned as general manager of the Babcock & Wilcox Tube Co., Beaver Falls, Pa., to go into business for himself on the Pacific Coast. A bronchial affection made a change of climate necessary.

Copperweld Steel Co., Glassport, Pa., appointed Sidney D. Williams vice president in charge of sales of the company's new steel division in Warren, Ohio.

A. G. (Tuck) Baldwin, vice president in charge of sales, Victaulic Co. of America, 30 Rockefeller Plaza, New York, manufacturer of Victaulic couplings, left New York by airplane, for a 2 months' trip, which will cover all the oil fields in South America. The entire trip will be made by plane.

Forrow on South American Tour

E. W. "Al" Forrow, general sales manager of Security Engineering Co., Inc., Whittier, Calif., manufacturer and distributor of Securaloy, Security drillable products and Sievers reamers, left January 26 on a 2 months' tour of Venezuela, Colombia, and Trinidad. He is accompanied by Mrs. Forrow. They were to be joined in Trinidad by W. C. Langley, Security Engineering Co. representative for that area.

Payne Succeeds Eugene Metz

American Meter Co. has appointed Calvin N. Payne manager of its Kansas City, Mo., office to succeed the late Eugene Metz. Mr. Payne has been with the company 18 years. After 10 years of production, service, and sales experience he was placed in charge of the Denver, Colo., office in 1930. His territory includes Missouri, Kansas, Nebraska, Colorado, and adjacent areas of Utah, Wyoming, and Montana.

After graduation from Hill School, Pottstown, Pa., Mr. Payne served in the U. S. Navy, and then attended Princeton University. He is a member of the American Gas Association, the Midwest Gas Association, and the Missouri Utilities Association.

Hamilton Joins Mid-Continent Pump

T. J. "Tom" Hamilton, formerly district superintendent for Phillips Petroleum Co., has been made sales manager for Mid-Continent Pump Supply Corp., of Tulsa. Mr. Hamilton is vice chairman of the Mid-Continent division of the American Petroleum Institute; former chairman of the Kansas State chapter, and a member of the A.I.M.E. He is a graduate of Ohio State University and entered the oil business after spending 2 years in Columbus College. He joined Phillips as a roustabout.

Accompanied by Roy Dunbar, president of Mid-Continent Pump Supply Corp., Mr. Hamilton recently returned from an inspection trip to the California factory of Pacific Pump Works, whose products the Tulsa concern distributes.

LARKIN PACKER MEN HOLD SALES MEETING IN ST. LOUIS

Executives and sales representatives of Larkin Packer Co., St. Louis, Mo., posed for this picture on the occasion of a recent sales meeting which was held at the home office.

First row: W. B. Porter, Tulsa, district manager northern division; J. J. (Jim) Larkin, Jr., St. Louis, vice president and works manager; J. J. (John) Larkin, Sr., St. Louis, vice president and general manager; W. H. Larkin, St. Louis, vice president and sales manager; C. F. Dougherty, Houston, Tex., district manager southern division. Second row: T. E. Alexander, Houston; R. E. Nesmith, Houston; R. R. Van Sant, Wichita Falls, Tex.; S. B. Smith, Evansville, Ind.; M. L. Jackson, Shreveport, La. Third row: W. P. Graham, Odessa, Tex.; A. F. Lemmon, Houston; J. J. Dailey, Kilgore, Tex.; W. G. Seis, New Iberia, La.; M. W. McCurtin, Salem, Ill.; H. S. Lindenmuth, Tulsa. Fourth row: L. E. Wallace, Great Bend, Kans.; R. W. Johnson, Corpus Christi, Tex.; W. H. Adamson, Odessa; I. P. Allen, Oklahoma City, Okla.; Milt Greve, Tulsa; A. J. Brown, Salem, Ill.

W. B. Porter, formerly field salesman for the Illinois field, has been made district manager with a territory including Illinois, Indiana, Michigan, Kentucky, Kansas, Oklahoma, the Texas Panhandle, and part of North Texas. His headquarters will be in Tulsa. S. B. Smith, who formerly covered Illinois, Indiana, and Kentucky, now has Indiana, Kentucky, and Michigan. M. L. Jackson, who recently joined the organization, will cover East Texas, North Louisiana, and Arkansas. C. F. Dougherty has been made district manager of the Central and Gulf Coast Texas areas.

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Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas; 2014 Second Nat'l. Bank Bldg., Houston. 506 Aztec Building, San Antonio, Tex., 457 Munsey Building, Washington, D. C. Address any of these offices.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN
only
A complete SERVICE EXPERTS in every department of the Oil Business at your SERVICE a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
P. O. Box 1120, Santa Fe, N. M.

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, and leases located in Clay County, Tenn. Have for sale two tracts of proven Fluorspar and Zinc deposits; reports furnished on request. W. P. Harley, Bowling Green, Kentucky.

CHAVES COUNTY, NEW MEXICO
Subdividing 160 acres in tracts as small as 2½ acres. Share in oil, gas and minerals under larger tract. A favorable report by reputable engineer furnished. Write for information. HARRY S. WRIGHT, Wright Building, Farmington, New Mexico.

WATCH GEORGIA—Drilling—Showings oil and gas. For information write C. W. Deming, Reg. Dealer, Waycross, Georgia.

THE
OIL PROPERTIES EXCHANGE
Alexander Building
Tulsa, Oklahoma
We have for sale many oil and gas properties, complete reports, various sizes, various states, also Royalties, Drilling Blocks, Oil Payments.
Write us
If you want to BUY or SELL a property.

NEW MEXICO WEEKLY OIL REPORT.
Send for sample copy.
BOX 968, HOBBS, N. M.

ARIZONA GOLD MINE. 40,000 tons ready to mill, Assays $24 per ton. Near big producers. Need equipment. Will sell 10% interest in Lease-Option for $3000. Address Box K-475, The Oil and Gas Journal, Tulsa, Oklahoma.

PROPOSITION of merit offered by driller owning drilling equipment to investor with $67.50. P.O. Box 550, Muskogee, Okla.

HAVE 4,000 acres; Western Indiana, 8 ft. oil show at 1,000 ft. Will deal with responsible company or driller for development. William Morgan, Perrysville, Ind.

Leases and Drilling Blocks

OWN A LEASE in this new oil field, big discovery well just in. Box 24, Silverdale, Kans.

ILLINOIS' ONLY OIL REPORT
Twice-weekly. Every detail of every test Illinois and Indiana.
3rd year. C. I. O'Neill, Effingham, Ill.

OWNER obliged to sacrifice for cash all or part of 2240-acre drilling block vicinity of seven structures area, Chaves County, N. M. Make offer. Box 9156, Sta. S, Los Angeles, California.

CASH paid for producing gas or oil wells, in any state. Describe fully. 8235 Marmont Lane, Hollywood, California.

FOR SALE: Five-year oil lease, 90 acres 31-20-5, Pawnee County, Okla. Edith Stewart, Goodland, Kansas.

WELL LOGS. Drillers' logs of approximately 4,000 wells drilled in New Mexico are available from Well Log Division, New Mexico Bureau of Mines & Mineral Resources, Socorro, New Mexico. Write for price list C.

KENTUCKY
We represent two corporations owning approximately sixty thousand acres of mineral lands in Laurel, Whitley, and McCreary Counties. Tracts vary in size up to five thousand acres. Owners are interested in leasing or selling all or part of their holdings.
DOLLE, O'DONNELL & CASH
3715 Carew Tower, Cincinnati, Ohio.

FOR SALE—Lease and ⅛ royalty. 10-yr. lease and ⅛ royalty for life of lease on S.E. 28-20-10, Major County, Okla. See me at 519 S. 8th St., Kingfisher, Okla. J. J. Bebout, Owner.

HURRY: Driller drilling his own well, shallow offset proven, offers substantial interest to party with very few dollars to help buy casing. HERE is an OPPORTUNITY. P. O. Box 705, Wagoner, Okla.

400 ACRES in Fayette County, 200 acres in Clay County, near production, 140 acres in Wayne County, Illinois. There are already hundreds of producing wells in each of these counties. Have 1,000 acres in Indiana, 2,000 acres in Northwest Missouri. All straight commercial leases, prices reasonable. Leo H. Graves, Farina, Illinois.

FOR SALE: Non-producing leases in Rooks County, Kansas. Near production. Producing leases in Jefferson County, Oklahoma. Good equipment. Write Box K-480, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE: Oil and gas lease, SE 33-17-5, Lincoln Co., Okla. So. Cushing field. Write 1233 Dorothy Dr., Glendale, Calif.

Leases and Drilling Blocks

STOP — CONSIDER, Why not gamble where you have a CHANCE? Join worker. $125.00 required. Investigate. Box K-470, The Oil and Gas Journal. Tulsa, Okla.

240 ACRES in Sec. 15, R20 N, 1E, Walnut Township, Noble County, Okla., to lease. Had good showings of oil and gas, drilled in 1939, in Sec. 9. Well tamped down and several have been trying to buy my land.
A. WILLETT
Eldorado Springs, Mo.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Financing

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

JOHN MORRIS, Box 5411, Philadelphia studied records 5000 financial houses. Found only 191 buy new issues. $4.00.

For Sale—Maps

TEXAS and NEW MEXICO
UP-TO-DATE OIL DEVELOPMENT MAPS
Zingery Oil Map Co., Fort Worth, Tex.

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years experience. A wise man investigates. George Miller, 1548 Post, Torrance, Calif.

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ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

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Paul Brown Bldg., St. Louis, Mo.

We buy and sell Royalties.
All offerings meet S.E.C. requirements.
CHESTER IMES
Tulsa Loan Bldg., Tulsa, Oklahoma.

ROBERT L. KINKAID, INC.
Tulsa Loan Bldg.
Tulsa, Oklahoma.

ROYALTY in SW 30 and SW 32-18-14 near Magnolia test; good title. A. G. Clewell, Box 99, Watonga, Oklahoma.

I OFFER oil production royalties, Goldsmith, Ector County, Texas. Monthly payoffs. John P. Stouppas, 38 So. Watt St., Youngstown, Ohio.

Geological Surveys

GEOLOGISTS—SURVEYORS
Looking for U. S. or State Geologic Surveys, or other government publications? Write Cornwall's Book Store, 723 Eleventh Street, Northwest, Washington, D. C. Unusually large stock.

Real Estate

FOR LEASE—Five to 10 years, shop now being used by Hydril Co.: two or more acres, all steel building with 15-ton crane, trackage, office building, all utilities, etc. Available April 15.
M. R. DUCEY, Owner
309 Webster, Houston, Texas

Mailing Lists

ROYALTY Lists. Oil Investor Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Legal Blanks

SINCE 1908 Burkhart's legal forms—servicing Mid-Cont. oil fields, including Ill., La., Mo., Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Oklahoma.

Equipment Wanted

EQUIPMENT WANTED
Refinery complete less storage, prefer 200-300 barrel cracking unit, or combination cracking and skimming unit. Plant must stand investigation and be priced right.
BOX 425, LUSK, WYOMING.

WANTED: Portable Rotary complete equipment, capable handling 8" hole, 1,500 ft. for operation Huerfano County, Colorado shallow field. Will purchase, lease or arrange interests for drilling this new high gravity shallow production. G. A. Horney, Box 614, Pueblo, Colo.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

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1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

WANTED TO BUY—STORAGE TANKS—REFINERY EQUIPMENT

We are in market for 55,000 bbl. and 80,000 bbl. Tanks. Also complete refineries and equipment or any surplus material you may have—Send us your listings.

WIRE PHONE WRITE

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt W. Duden
2100 S. Union, Tulsa, Okla.

LUBRICATING GAS-O-LINE AND SAVE

3 to 6c on GASOLINE. 25 to 40% Motor Expense. Original and Genuine lubricating Anti-Knock Additive. Mixture makes cheap GASOLINE good, and high-test Gasoline better, or highest powered Gasoline on American Market. Prove it for yourself. Introductory Delivered Price 90c on $2.50 package. Responsible Dealers Wanted.

LUBRICATING GASOLINE CO., HOUSTON, TEXAS

FOR SALE: O. C. Whse.—6700 Ft. 2" 10 Thd. 4.6# used insert seamless tubing C-45—I.T.I.O. Co., Bartlesville, Okla.

---

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

FOR SALE: Odessa, Texas, Used handling equipment for 3½" flush joint drill pipe, including, elevator, tong heads, slips, W-K-M Hauser drive and miscellaneous subs and short drill collars. 50% discount.

LUCEY PRODUCTS CORPORATION
Tulsa, Okla.

FOR SALE: Bartlesville Warehouse—7500' 3" 7.50# 11½ Thd. used lapweld regular tubing. I.T.I.O. Co., Bartlesville, Okla.

NOTICE — CABLE TOOL CONTRACTORS, Save money; used wire lines. All sizes up to 5,000 ft. long. See us before you buy. General Tool & Supply Co., P.O. Box 4387, Oklahoma City, Oklahoma.

FOR SALE: 7 Ft. x 20 Ft. Butane welded storage tanks 125# WP, capacity 6000 gallons. I.T.I.O. Co., Bartlesville, Okla.

FOR SALE—Brown Recording Pyrometer, double dial, indicating and recording. Range 75-F 800 F, 30 day chart, Warren 110 volt electric clock. Warner-Lewis Co., Tulsa, Oklahoma.

1—37½-H.P. Fairbanks-Morse oil engine.
1—25-H.P. 2-cycle Superior gas engine.
11—40-H.P. 2-cycle Superior gas engines.
2—1,000-watt Ready Power International Type AH 12 A.C. electric plants.

All above complete. Ready to run.
Nolan Sales Corporation, Tulsa, Okla.

FOR SALE—At Bartlesville, 10-20 McCormick Deering tractor with Shaffer front end senior Bearcat Winch; at Oklahoma City, 1—Muskogee Model "B" Skid type well service machine with PA-100 International Motor. I.T.I.O. Company, Bartlesville, Oklahoma.

FOR SALE

25,000 ft. of 4" seamless drill pipe equipped with both full hole and regular tool joints.
10,000 ft. of 7" 24# seamless casing, once run.
5,000 ft. of 7" 26# seamless casing, once run.
10,000 ft. of 2½" seamless tubing, used for flowing wells only.
We also have several complete drilling rigs, one with Unitized Draw Works capable of drilling 6,500 ft. The above is located in Shreveport, Louisiana.
We also have 30,000 ft. of 6" screw line pipe located in Oklahoma.

Wire, Write or Phone for Prices

Louisiana Iron & Supply Co.
Shreveport, Louisiana

FOR SALE—$80,000.00 Rotary Rig complete. 10-in. Emsco Unit, 125-350 Boilers, etc. Practically new. Bargain. Roberts Bros., Box 1726, Houston, Texas.

FOR SALE: Oklahoma City Warehouse—4600' new & used 1½" 11½ Thd. 2.75# Regular C-45 S.S. Tubing. I.T.I.O. Company, Bartlesville, Oklahoma.

EQUIPMENT FOR SALE

2—Used Full Electric Diesel Powered Drilling Rigs—complete with Drill Pipe.
1—Used Electrical-Mechanical Diesel Powered Drilling Rig—Less Drill Pipe.
1—Used Complete Large Steam Drilling Rig.

All in first class condition. For inventory and Prices call or write

K. S. RICHARDS
P. O. Box 830 Ph. 2-1161 Fort Worth, Tex.

FOR SALE: Bartlesville Warehouse—3300' New & 2600' used 1½" 2.731# Butt Weld Reading Wrot Iron Tubing. I.T.I.O. Company, Bartlesville, Oklahoma.

Gasoline Plant Equipment For Sale

1—5' x 16' S.W. Evaporator 40# W.P.
1—9' x 4½' Graver Water Filter.
1—8' x 40' Tulsa Type Bubble Tower.
1—49" x 12' S.W. Reflex Tower.
2—96" x 34' S.W. Bubble Towers.
2—7 x 7 Graver Water Softeners.
1—30' x 40' x 12' Sectional Steel Bldg.
1—4 x 6 Fairbanks Morse Duplex Pump.
Clark, Bessemer, Ingersoll-Rand, Miller Compressor Cylinders from 6" to 26".
Located at our Seminole, Okla. Store.

Nolan Sales Corporation, Tulsa, Okla.

FOR RENT: At Oklahoma City, new 7,000' string 3½" O.D. 13.3# seamless left hand fishing drill pipe with tool joints. I. T. I. O., Bartlesville, Okla.

FOR SALE: Orifice and Positive Gas Meters. GEO. R. MILNER, Okmulgee, Oklahoma.

FOR SALE—55-Hp. Bruce McBeth Twin Cylinder Natural Gas Engine, 275 r.p.m., 11-in. bore. W. C. Hudson, Brilliant, Ohio.

FOR SALE—Seminole, Oklahoma, warehouse steel portable building 20' x 86' x 10' and 18'. I. T. I. O. Company, Bartlesville, Oklahoma.

Help Wanted

WANTED: Refinery Operator who has had actual experience as stillman and treater of both light and heavy oils and cracking. Chilling and dewaxing experience very desirable. Reply to Box K-482, The Oil and Gas Journal, Tulsa, Okla., giving age, experience, training and salary desired.

MANUFACTURER has opening for engineer with 4 or 5 years experience with oil well service units and pumping equipment. Permanent position. Inexperienced engineers not considered. Box K-485, The Oil and Gas Journal, Tulsa, Okla.

WANTED: Accepting applications for following: Wax plant engineers, Centrifuge Dewaxing operators and a 1st class refinery pipe fitter, also Civil Engineer who has had refinery design and construction experience. Reply to Box K-483, The Oil and Gas Journal, Tulsa, Okla., giving age, experience, and salary desired.

Help Wanted

SITUATION OPEN — California. Required by prosperous independent company (producing, refining, marketing) energetic and vigorous administrative executive. Strong background of commercial experience in oil industry essential and knowledge of at least one branch of operators activities. Good opening for selected candidate. Apply stating experience, reference (copies only) as to character and ability, salary expected to Box K-451, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED
OIL FIELD BLACKSMITH
Write D. F. Mitchell, Shelby, Montana.

WANTED—Recent Petroleum Engineering graduate with oil producing lease experience for position as draftsman and later repressuring field man with North Texas consulting firm. Give age, education, detailed experience, picture, salary expected, and references. Address Box K-472, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED—A good employer, by a reliable middle aged gentleman, married, experienced in any department of an oil or supply company, field or office work. Like hard work and long hours. Box K-476, The Oil and Gas Journal, Tulsa, Okla.

SALESMAN: Full time salesman to live and work in North Texas. Must be familiar with derricks and other oil field equipment, and must have good acquaintance among the major purchasers. Please give full particulars in first reply. Box K-484, The Oil and Gas Journal, Tulsa, Okla.

LARGE SUPPLY company has opening for man age 30-40 with Mid-Continent Cable and Rotary Tool experience for position as field salesman and store manager. Give full particulars in first letter. Confidential. Address Box K-486, The Oil and Gas Journal, Tulsa, Okla.

Situations Wanted

REFINERY SUPERINTENDENT, ENGINEER. Capable and experienced in the operation, maintenance and construction of all modern refining operations. Considerable management background with excellent record. Technically trained. Address Box K-474, The Oil and Gas Journal, Tulsa, Oklahoma.

COMPETENT, successful Manager: For Oil Company, Drilling Contractor or extensive oil interests. 20 years' experience. If your operations are not showing sufficient profit write P. O. Box 134, South Pasadena, California.

REFINERY Superintendent: 10 years' experience, desires connection. Box K-481, The Oil and Gas Journal, Tulsa, Okla.

AVAILABLE: An A-1 Chemist in the oil, tar and gas industry, experienced in by-product research. University graduate (A.B. degree); 41 years of age; single; native American. Modest salary required. Address R. D. V., c/o Executive's National Association, 300 B-st., S. E., Washington, D. C.

Rocky Mountain Runs

Production estimates for week ended February 3:

WYOMING

	Bbls.
Salt Creek	14,120
Big Muddy	1,190
Bryon	1,380
Dallas Derby	600
Elk basin	650
Frannie	3,730
Garland	2,920
Grass Creek	1,650
La Barge	1,270
Lance Creek	25,320
Lost Soldier	1,780
Medicine Bow	760
Oregon basin	2,450
Osage	600
Quealy dome	590
Rock River	2,620
Wertz	2,070
Miscellaneous	1,290
Total Wyoming	64,970

MONTANA

Border	80
Cat Creek	480
Cut Bank	10,300
Dry Creek	660
Kevin-Sunburst	4,570
Pondera	950
Total Montana	17,040

COLORADO

Florence	160
Fort Collins and Wellington	310
Wilson Creek	490
Iles dome	1,620
Moffat	300
Orchard	30
Rangely	70
Tow Creek	150
Price	1,680
Total Colorado	4,810

NEW MEXICO

Cooper	3,050
Corbin	40
Eaves	680
West Eunice	160
Eunice	17,940
Halfway	80
Hardy	3,190
Hobbs	10,730
Jal	570
Langlie	4,430
Lynch	400
Lynn	760
Mattix	4,650
Monument	18,680
North Lynch	20
Penrose	4,340
Rhoades	40
Skaggs	80
Skelly	1,680
South Eunice	3,750
South Lovington	1,320
Vacuum	10,280
Artesia-Maljamar	15,080
Aztec-Bloomfield	10
Getty	100
Hogback	200
Rattlesnake	490
Table Mesa	110
Total New Mexico	102,860
Total Rocky Mountain region	189,680

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the February 1 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.05
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.75

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California*	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$.065	....	....
15-15.9	.65	....	....
16-16.9	.65	....	....
17-17.9	.65	....	....
18-18.9	.65	....	....
19-19.9	.69	....	$0.86
20-20.9	.73	$0.70	.88
21-21.9	.78	.72	.90
22-22.9	.82	.74	.92
23-23.9	.86	.76	.94
24-24.9	.90	.78	.96
25-25.9	.95	.80	.98
26-26.9	.99	.82	1.00
27-27.9	1.03	.84	1.02
28-28.9	1.07	.86	1.04
29-29.9	1.10	.88	1.06
30-30.9	1.14	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
40-40.9	....	1.10	1.28

*Effective February 1, 1940.

Crude-Oil Price Changes

Effective Feruary 1, Standard Oil Co. of California reduced prices on crude oil ranging from 4 to 15 cents per barrel. The new schedule appears on Page 81 of this issue.

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